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The Effects of a Sense of Humour on Empathic-Responses: Testing Positive and Negative Affect as Mediating Variables

by

Michael Francis Sheehan

A Thesis Submitted in Partial Fulfilment of the
Requirements for the Award of
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USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

Abstract

Research investigating individual differences in empathy-related responding has shown sympathy (an other oriented response involving concern) and perspective taking (the psychological adoption of another's point of view) to be related to emotional regulation and more positive affect, and personal distress (an egoistic reaction to another's distress) to be associated with overarousal and more negative affect. Separate research investigating the stress-moderating effects of humour has linked coping humour to reduced negative affect and the maintenance of positive affect. The present study tested a model that hypothesised that coping humour would have an indirect affect on each empathy-related variable through positive and negative affect. Seventy-eight males and 143 females from the general community, selected through snowball sampling, responded to three self-report questionnaires, i.e., the Coping Humour Scale (Martin & Lefcourt, 1984), the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), and Davis' (1980) multidimensional measure of empathy The Interpersonal Reactivity Index. Path analysis indicated that the association between coping humour and personal distress was mediated by positive affect for both males and females, with high coping humour scores being associated with high positive affect levels which, in turn, was related to low personal distress levels. For males, positive affect mediated the association between humour and sympathy. High positive affect was associated with high levels of sympathy. While negative affect was not a mediator variable, gender moderated the relationship between negative affect and sympathy and personal distress, suggesting future research is warranted to investigate these differences. Since coping humour results in less personal distress, humour seems an important attribute for social competence and

psychological well-being, particularly when continually exposed to other's negative emotions, such as in the caring professions.

Declaration

I certify that this thesis does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature: __

Date: 5/2/97

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CHAPTER ONE

LITERATURE REVIEW

In recent years, there has been increasing recognition of the role emotion plays in the regulation of social interactions (Garber & Dodge, 1991). The ability to express and manage emotion adequately is considered an important aspect of social competence (Hubbard & Coie, 1994; Park, 1994). Research on individuals' abilities to regulate the experiential and expressive aspects of emotion has mainly focused on directly experienced emotion, that is, emotion derived from one's own experience (e.g., people's anger or distress in regard to events that happen to them; Eisenberg et al., 1996). However, in the last decade, studies have begun to investigate individuals' vicariously-induced emotions (i.e., emotional states derived from the perception of another's emotion or situation) and their relationship to the quality of people's social interactions (Eisenberg, et al., 1996). Much of the existing work on vicariously-induced emotion and its relationship to social functioning concerns empathy-based reactions and their relation to prosocial behaviour.

Empathy, Sympathy, Personal Distress and Perspective Taking: Definitional Issues.

Although definitions vary in terms of how much emphasis is placed on cognition or affect, *empathy* is viewed as primarily a vicarious affective response that reproduces or matches the emotion of another (Batson & Coke, 1981; Eisenberg et al., 1994; Eisenberg & Strayer, 1987; Eisenberg & Okun, 1996; Hoffman, 1982; Staub, 1987; Stotland, 1969). Hoffman (1982) has defined empathy as an affective response that is relevant to another's situation rather to one's own, highlighting the

major distinction between empathy and direct emotional arousal. Experiencing fear when exposed to a frightened person or joy in response to seeing a happy person, involves the *parallel* experience of empathy.

Research on empathy has tended to focus on the nature of the observer's affective response to the another's emotions. For example, Batson and his colleagues (Batson, Duncan, Ackerman, Buckley, & Birch, 1981; Batson, O'Quin, Fultz, Vanderplas, & Isen, 1983; Toi & Batson, 1982) have identified two distinct affective emotional responses that are often viewed as arising from empathy: (a) "sympathy"¹ and (b) "personal distress". These affective states involve *nonparallel* emotional responses that go beyond a matching of affect. They consist of a person's emotional *reaction to* experiencing another's emotions. *Sympathy* is defined as an other-orientated emotional *reaction to* another's state or condition that comprises feelings of concern or sorrow for the other person. Thus, if a person feels concern for another person who is sad, rather than just experiencing sadness, he or she is sympathising. Empirical research has demonstrated a the positive relationship between sympathy and helping/prosocial behaviour (Batson, 1991; Hoffman, 1982; Staub, 1984; Davis, 1994). In contrast, empathy can also result in a self-focused reaction referred to as *personal distress*, instead of or in addition to, sympathy (Batson, 1991, Eisenberg & Fabes, 1990; Eisenberg et al., 1996). Personal distress is viewed as an aversive, egoistic emotional *reaction* that is based on another's emotional state or condition, and involves feelings of anxiety, discomfort or distress focused on the self (see Batson, 1991; Davis, 1983; 1994; Eisenberg, Shea, Carlo, & Knight, 1991; Eisenberg

¹ Sympathy is variously labelled *empathy* by Batson et al. (1991) and *empathic concern* by Davis (1983, 1994). Care should be taken to distinguish between empathy and sympathy (and its associated terms). Empathy refers to an entire construct consisting of the facet of sympathy; that is, sympathy refers to one aspect of empathy among others (i.e., personal distress and perspective taking).

& Okun, 1996). Becoming distressed at seeing a person in a wheelchair who may him or herself not be distressed, is an example of a personal distress reaction.

Empathy, in addition to consisting of affective components, is also viewed as having a cognitive component, namely, *perspective taking*, which involves a cognitive awareness of the another's internal mental states (thoughts and feelings) (Hoffman, 1984). While both sympathy and personal distress are viewed as frequently stemming from empathy, they may occur as a consequence of perspective taking² (Batson, 1991; Hoffman, 1982; Omdahl, 1995). That is, by knowing how others are feeling and/or thinking, one comes to *feel* their negative emotions, which, in turn, may lead to feelings of concern for them.

While empathy can be a response to a wide variety of emotions, both positive and negative, sympathy and personal distress are understood as being responses to negative emotional states only. Wispé (1991) notes that the word *sympathy* literally means a "suffering with" another person and points out that it would be inappropriate to sympathise with another's happiness. These empathy-related responses can arise from the direct perception of emotional or situational cues or via symbolic information (e.g., language) about another's emotional state or situation (Eisenberg et al., 1994).

One conceptual problem with the literature concerning empathy is that the term has been used interchangeably to refer to sympathy, personal distress or perspective taking. This has led to a confounding of definitions and measurement of the affective and cognitive components of empathy (Strayer, 1987). As a result, studies have yielded inconsistent results, which limits their interpretation and usefulness. In studies with adults, Batson and Coke (1981) have demonstrated that it

² This is especially so for sympathy.

is important to distinguish between the various modes of vicarious emotional responses, and have shown that the emotions associated with sympathy and personal distress are qualitatively distinct emotions. They had respondents report on a 7-point Likert scale how strongly they were feeling in response to witnessing another's distress from a list of emotional adjectives reflecting sympathy (e.g., sympathetic, moved, compassionate, tender, warm, soft-hearted) and personal distress (e.g., alarmed, grieved, upset, worried, perturbed, distressed, troubled). Through factor analysis of these self-report responses, it was found that six sympathy adjectives loaded onto one factor (all with loadings $> .50$) and all of the distressed adjectives loaded onto a second orthogonal factor (all with loadings $> .50$), suggesting that sympathy and personal distress are two qualitatively distinct emotional reactions. Furthermore, Batson and Coke (1981) have proposed that sympathy and personal distress lead to two qualitatively distinct motivations to help. They argue that empathy in itself may not be consistently related to other- or self-focused behaviour. Rather, empathy's differential links to other- or self-focused behaviour may vary as a function of whether it facilitates sympathy and/or personal distress. Personal distress gives rise to an egoistic desire to reduce one's own distress, whereas sympathy produces an other-orientated desire to reduce the distress of the person in need (Eisenberg, et al, 1991; Eisenberg et al., 1996) (See figure 1).

In research on the association between vicarious *state* related emotional responding (i.e., the relation between sympathy and personal distress in a particular context) and prosocial behaviour, (i.e., voluntary behaviour carried out by an individual which benefits another), researchers generally have found that children and adults who report relatively high levels of sympathy frequently try to assist others in

distress, even if they can escape from dealing with the distressed person (Batson, 1991; See Dovidio, 1984, Piliavin, et al., 1981 for reviews) (see Figure 1). In contrast, children or adults who become anxious or distressed in reaction to another's negative emotions often avoid dealing with the distressing situation. However, if they cannot escape the situation, their motivation for helping, if it occurs, is to alleviate first and foremost their own distress (Batson, 1991; Eisenberg, et al., 1994) (see Figure 1).

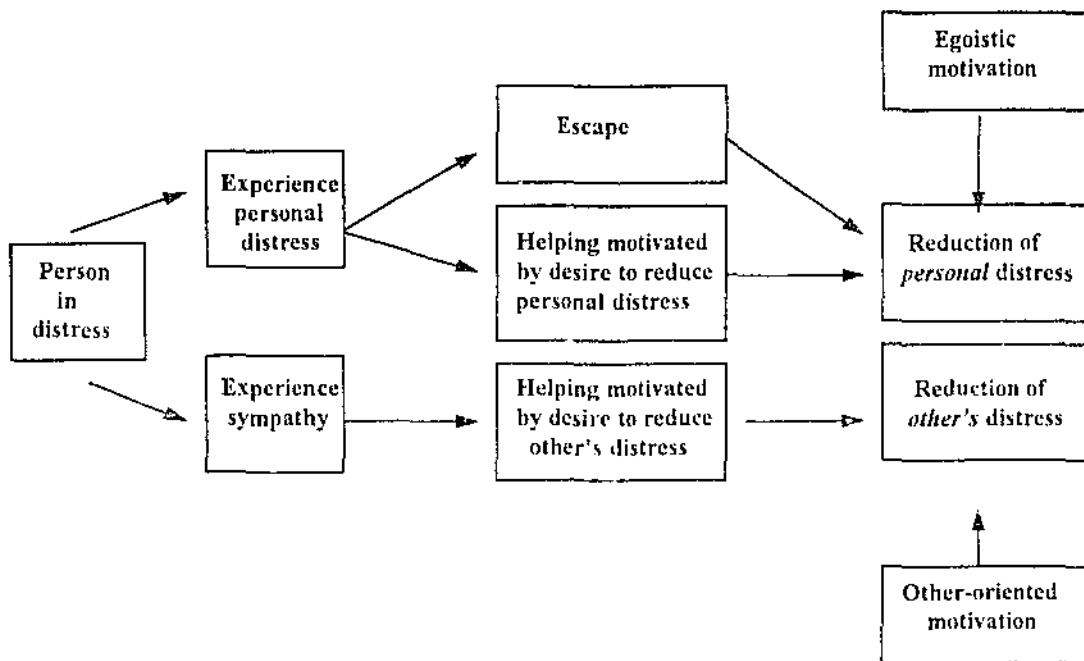


Figure 1. Sympathy versus personal distress model: Experiencing sympathy motivates people to reduce others' distress. In contrast, egoistic motivation leads to helping due to a desire to reduce one's personal distress

In addition, research with adults regarding *dispositional* measures of empathy-related responding has linked sympathy to the contribution of time and money to the needy (Davis, 1983), and revealed that those high in sympathy are more likely to engage in types of volunteer behaviour where the recipient's distress or need is highly salient (i.e., the choice to be a day care centre volunteer over an office volunteer)

(Eisenberg & Okun, 1992). With children, studies have indicated that children prone to sympathy are socially competent (e.g., assertive with peers) and are relatively likely to spontaneously assist others in their social interactions, whereas those prone to personal distress are less socially skilled (e.g., non-assertive), and may respond aggressively (see Eisenberg & Fabes, 1992). The tendency to experience personal distress may also impact upon an individual's psychological well-being, where chronic emotional overarousal can lead to harmful physiological effects accompanied by feelings of fear, anger and depression. This, in turn, can result in loneliness and a decreased satisfaction in one's relationships. In addition, individuals who work in the human service occupations (e.g., health care, social work, teaching) because they feel a high degree of empathy for others (Pines, 1982), but are prone to personal distress rather than sympathy, may be unable to effectively communicate with their clients and be susceptible to burnout (Gross, 1994; Maslach, 1982). Thus, empathy and its related responses play an important role in promoting or hindering helpful behaviours, and preventing or creating harmful ones.

Individual differences and empathy-related characteristics

While the association between empathy-related-characteristics and prosocial behaviour has been demonstrated empirically, relatively little research has been conducted on individual differences in empathy-related responding (Eisenberg et al, 1994; Eisenberg et al., 1995). However, research in behavioural genetics has suggested there are stable individual differences in empathy and sympathy. For example, an investigation by Davis, Luce and Kraus (1994), using data from a prior study of over 850 adolescent identical and fraternal twin pairs, examined the heritability component of sympathy, personal distress and perspective taking. Based

on a checklist of a set of self-descriptive adjectives given to the original twin pairs in a previous study, expert judges identified adjectives that reflected each empathy construct. Correlations between sympathy and personal distress for identical twins significantly exceeded that of non-identical twins, and reflected a significant heritability component for the emotional components of empathy (sympathy = 28 percent ; personal distress = 32 percent) (see Davis, 1994 for a review).

Consistent with this research on genetics, Eisenberg and Fabes (1992) have proposed that among the factors that determine whether individuals are prone to sympathy, personal distress and perspective taking are (a) the individual's dispositional level of emotional responsivity (i.e., individuals who typically experience their emotions intensely) and (b) individuals' abilities to regulate (modulate) their emotional arousal (see also Derryberry & Rothbart, 1988). *Emotional regulation* can be defined as the ability to cope with heightened levels of both positive and negative emotions (Bridges & Grolnick, 1995; Hubbard & Coie, 1994). Negative emotions signal to the individual that some action is required to alleviate/reduce the intensity and or frequency of negative emotional states (e.g., the frequency of negative emotions, the intensity of anxiety or distress).

Both Hoffman (1982) and Eisenberg and Fabes (1992) have argued that empathic overarousal may be experienced as extremely aversive under certain conditions and may result in a focus on the self rather than others (i.e., be experienced as personal distress), and thus actually decrease the likelihood of helping. Consistent with this, physiological arousal in general may induce self-focused attention as a result of the individual's attempt to understand that arousal, and that negative affect is more likely than positive affect to induce a self focus (Wegner and Guilano, 1980). Thus,

Eisenberg and Fabes (1992) propose that individuals who are unable to maintain their emotional arousal based on empathy within a tolerable range, and who tend to become overaroused, are prone to respond in self-focused ways that address their own needs. These persons who become overly distressed and aroused when exposed to another's distress are more likely to employ coping strategies that shield or distract them from the source of the distress and are, therefore, less likely to help when escape is easy. In fact, distress and self-focused attention have been found to be negatively associated with problem focused coping, that is, efforts to modify the source of the problem, such as helping a distressed other (Wood, Saltzberg, Neale, Stone, & Rachmiel, 1990).

In contrast, people who can respond to other's negative emotion but can regulate their vicarious emotion so that it is not experienced as aversive, may be prone to experience greater sympathy (Eisenberg & Fabes, 1992; Eisenberg et al., 1994). They may experience another's negative emotion but may be less likely to become self-focused as a consequence and thereby able to employ problem-focused coping strategies (e.g., helping) that directly address the needs of others (Eisenberg & Fabes, 1991). In fact, Lazarus and Folkman (1984) have argued that individuals who can regulate their emotional arousal are likely to cope in relatively constructive ways; that is, people first need to regulate emotional distress (emotion-focused coping) in order to facilitate problem-focused coping.

Individual Differences in Positive and Negative Affectivity

In addition, Eisenberg and her colleagues (1994) suggest that positive and negative emotions may relate differentially to emotional regulation and vicarious emotional responding. The disposition to experiencing positive affect may be an

outcome of emotional regulation. Furthermore, positive affect may be associated with the tendency to experience sympathy, as positive affect not only seems to be related to less self-focus, but may even be associated with an out-ward focus (Wood, Salzberg & Goldsamt, 1990). Consistent with this, a common finding in the empirical literature is that positive feeling states increase helping (See Davis, 1994). Receiving a biscuit for no good reason other than kindness, finding a coin in a telephone box (Isen & Levin, 1972) or being given free stationary (Isen, Clark, & Schwartz, 1976) has been shown to predispose people to offer help towards third parties who are not involved in the gift giving. One explanation for this is that positive emotions increase the accessibility of positive cognitions which then raises expectation of positive results of helping (Cunningham, 1988) and facilitates helping behaviour (Batson, 1991). Alternatively, the *comparative-affect explanation* (Rosenhan, Salovey, & Hargis, 1981) suggests that when people have an opportunity to help another person, they compare their current feeling state with the state of the person they could help. If they perceive an imbalance between the two, they act to reduce this imbalance. If the person in need is experiencing more negative affect than they, then they help. If they are experiencing more negative affect, then they do not help. Furthermore, positive affect also seems not only to be related to less self-focus, but may even be associated with an outward focus (Wood, Salzberg, & Goldsamt, 1990). When people are happy they report greater liking for others, are more willing to engage in conversation and to offer to help others (Clark & Isen, 1982; Staub, 1984 for a review).

In contrast, individuals who are high in negative affectivity (e.g., the propensity to experience negative emotions; Watson & Clark, 1984) would be especially likely to be prone to self-focused personal distress reactions, which by

definition involves feelings of distress and anxiety. Consistent with this, significant negative correlations between self-esteem and personal distress have been found ($r = -.38$ and $-.44$ for females and males respectively), in addition to relatively strong significant positive correlations between personal distress scores and scores on fearfulness ($r = .53$ and $.59$ for males and females respectively) (Davis, 1983). Moreover, because distress and self-focused attention have been found to be negatively associated with problem-focused coping (Wood, Saltzberg, Neal, et al., 1990), individuals who experience high levels of distress and self-focused attention would be less likely to help another when escape is relatively easy (Batson, 1991). This would be in contrast with those more prone to experience positive emotions, who would be more other-orientated in their attention and tend to be more sympathetic.

In summary, Eisenberg and Fabes' (1992) heuristic model proposes that emotionally well-regulated people could be expected to modulate their negative emotional states, including those based on empathy, and maintain an optimal level of emotional arousal (i.e., one that is not experienced as so aversive that it gives rise to a self-focus). In addition, the disposition to experience positive affect would be a likely outcome of this optimal level of regulation, which then is associated with sympathy (see Figure 2), because secure, happy people are less-self focused and better able to respond to other's emotion in a productive manner (Staub, 1987). In contrast, individuals who are unable to regulate their negative emotional reactions, including those based on empathy, would be expected to become empathically overaroused. Such individuals would be prone to experience negative affect and personal distress, and to focus on their own needs (see Figure 2).

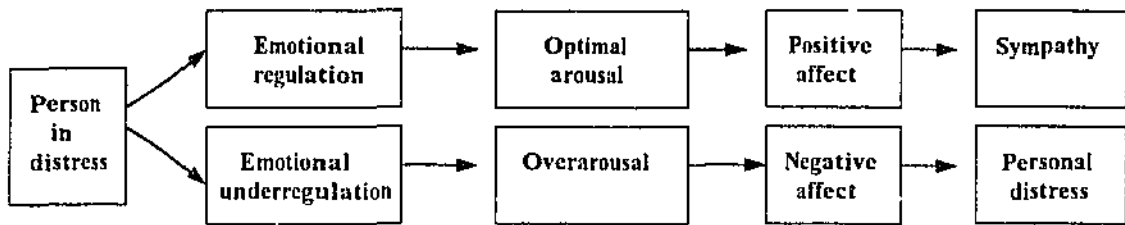


Figure 2. Hypothesised predictors of sympathy and personal distress.

The Relationship Between Emotional Regulation, Positive and Negative Affect, and Empathy-Related Responses: Empirical Studies

Eisenberg and colleagues (Eisenberg et al., 1994; Eisenberg et al., 1996; Eisenberg & Okun, 1996) have empirically tested this conceptual model in a number of studies which also aimed at redressing previous methodological concerns of definition and measurement. They included multimodal approaches which comprised self-report measures to assess dispositional empathy-related characteristics, as well as facial and heart rate responses to assess situational empathy-related responding. With regard to self report measures, Davis' (1980, 1983) Interpersonal Reactivity Index was employed. This is based explicitly on a multidimensional view of empathy which taps the affective responses of sympathy and personal distress as well as the cognitive facet of perspective taking. Generally, questionnaire measures of empathy have either adopted an affective definition of empathy which has assessed a purely emotional facet of empathy (i.e., the tendency to react emotionally to the observed experiences of others: Mehrabian & Epstein, 1972) or a cognitive definition of empathy (perspective taking: Hogan, 1969). Only Davis (1980, 1983) has attempted to view empathy as a multidimensional construct and differentiate between personal distress, sympathy and perspective taking.

Furthermore, as recent studies of the structure of affect have indicated that positive and negative affect have consistently emerged as two dominant and relatively independent (orthogonal) dimensions (Costa & McCrae, 1980; Watson, Clark, & Tellegen, 1988; Watson & Tellegen, 1985), Eisenberg and colleagues (1994) have also taken a multidimensional approach to affect and employed the 10-item Positive and Negative Affect Schedule (PANAS), a reliable and valid means of measuring these important dimensions of affectivity (*Positive affect* reflects the extent to which a person feels enthusiastic, active and alert, whereas *negative affect* is a dimension of subjective distress that subsumes a variety to aversive mood states).

With these methodological issues addressed, Eisenberg and colleagues (1994), in testing their model predicting a relationship between regulation, empathy-related responding and affect, found in a sample of 164 psychology students (82 of each sex), that all indices of regulation (as measured by various temperament scales which assessed attentional focusing and shifting and emotional control) were negatively related to personal distress (average $r = -.42$, $p < .001$) and positively associated with perspective taking (average $r = .32$, $p < .001$). However, contrary to predictions, regulation was unrelated to sympathy. In examining intercorrelations between the affect and empathy-related variables, it was found that positive affect was negatively related to personal distress ($r = .42$, $p < .001$) and positively associated with perspective taking ($r = .22$, $p < .01$). Again, contrary to expectations, sympathy was unrelated to positive affect. Negative affect was correlated with personal distress ($r = .39$, $p < .001$) and positively correlated with sympathy when social desirability was controlled. (Partial $r = .21$, $p < .01$). Gender did sometimes moderate the relationship between some measures. For example, with regard to dispositional

measures, emotional regulation was correlated with perspective taking for women only.

In general, Eisenberg and colleague's (1994) study provided support for the notion that emotional regulation is related to individual differences in sympathy, personal distress and perspective taking, and that positive and negative affect relates differently to sympathy, personal distress and perspective taking. This is especially true when dispositional measures of these constructs are used. However, the findings were somewhat more consistent for personal distress than for sympathy. That is, individuals, who were relatively unregulated, tended to experience personal distress, which was related to high levels of negative affect and low levels of positive affect. Therefore, people prone solely to negative affect may be less adept at regulating their negative emotional states based on empathy and be particularly susceptible to empathic overarousal and self-focused personal distress. However, those able to regulate their vicarious negative emotions, seem to be prone to more positive affect and tend not to experience an egoistic personal distress reaction. They are able to maintain an optimal level of emotional arousal (i.e., one that has emotional force but is not so aversive as to engender a self-focus). Such individuals feel the distress of others but are able to respond in a productive manner (i.e., help).

Eisenberg and Okun (1996) in another recent study, extended this research to adults (76% women) who were actively engaged in helping behaviour. In a sample of 570 elderly hospital volunteers, and employing the same scales as in the previous study (Eisenberg, et al., 1994), they found in accord with predictions, that emotional regulation was positively associated with positive affect ($r = .22, p < .001$). In contrast, all measures of regulation were negatively correlated with negative affect

(average $r = -.20, p < .001$). Furthermore, reports of experiencing positive affect while volunteering was positively correlated with sympathy ($r = .18, p < .001$) and perspective taking ($r = .15, p < .001$), but negatively related to personal distress ($r = -.11, p < .05$). In addition, negative affect while volunteering was positively associated with personal distress ($r = .15, p < .001$), negatively related to perspective taking ($r = .15, p < .01$), and unrelated to sympathy. Eisenberg and Okun note that their reported zero order correlations were similar to the partial correlations computed controlling for sex, social desirability and stressfulness of the placement. In fact, the lack of sex differences in the mean levels of elder's sympathy and personal distress was somewhat surprising and contradicted previous empirical studies where women have consistently reported more sympathy and personal distress than males. They attributed sampling to this anomaly, suggesting that perhaps only relatively emotional men volunteer in a hospital setting.

While the correlations reported from this volunteering study were low, the findings are consistent with the view that low emotional regulation tends to accompany negative affect, which, in turn, is associated with higher dispositional personal distress. In contrast, high regulation tends to accompany greater positive affect and higher levels of dispositional sympathy. These findings add support to Eisenberg and Fabes' (1992) model that people who tend to become overaroused emotionally because they are relatively unregulated, are prone to negative affect and personal distress. In contrast, those who are able to regulate their emotion are prone to experience higher levels of positive affect and be more sympathetic.

While the findings of the two previous studies (Eisenberg et al., 1994; Eisenberg & Okun, 1996) generally indicate that individual differences associated with

empathy-related characteristics in undergraduates also can be generalised to older individuals, there was little relationship between measures of regulation and sympathy in the sample of undergraduates. This suggests that there might be age-related increases in emotional regulation. However, recently, Eisenberg et al. (1996) found a positive association between regulation and sympathy in children.

In a sample of 82 kindergarten children with a mean age of 87 months, results showed that teacher reports of girls' and boys' regulation and positive emotionality were positively correlated with teacher reports of their dispositional sympathy ($r = .64, p < .001$, and $.41, p < .01$ respectively) and boys' self report of sympathy ($r = .42, p < .01$). In contrast, teacher reports of negative emotionality were generally unrelated to teacher and children's self reports of dispositional sympathy, and when significant, were negative, consistent with Eisenberg and Fabes' (1992) model that negative emotionality is associated with personal distress rather than sympathy. In addition, dispositional sympathy was, in general, positively correlated with positive social functioning (i.e., which comprised teachers, parents and children's ratings of children's social skills, popularity, aggressiveness, sharing and perspective taking). Finally, physiological responses used to assess personal distress reactions to watching a distressing film, showed only boys' reports of sympathy to be negatively related to personal distress levels (as measured by low heart rate and skin conductance responses which was indicative of low personal distress). This is consistent with the view that children who are prone to negative emotions, including personal distress, are relatively unlikely to experience sympathy. Similar findings did not occur for girls, possibly because boys, through socialisation experiences, learn to express their negative emotions internally rather than externally.

In summary, Eisenberg and Fabes' findings, in a number of studies across various samples, are consistent with their model (Eisenberg & Fabes, 1992) that individual differences in regulatory skills are associated with the tendency to experience positive or negative affect which play a significant role in empathy-related responses and prosocial behaviour. In particular, individuals who can regulate their negative emotional reactions within a tolerable range (i.e., it is not so arousing as to be highly aversive) are likely to experience positive emotions which are associated with sympathetic responding. These individuals can experience the distress of others, but are relatively unlikely to become overwhelmed by the emotion and become self-focused. In contrast, people who are unable to manage their empathy-induced negative emotions are prone to experience negative affect, which may lead to a self-focused personal distress reaction (Batson, 1991; Davis, 1994).

Sense of Humour As a Constructive Mode of Emotional Regulation

On the basis of Eisenberg and Fabes' (1992) model, individual differences in the *ability to regulate negative emotions* are differently related to positive and negative affectivity and empathy-related responding. Regulation reflects a range coping strategies which include ways of modulating the degree of emotional arousal in a given situation. One coping strategy is *appraisal focused coping* which aims at changing one's perceptions and cognitions so that a situation that is originally appraised as threatening and intolerable is reappraised as challenging and controllable (Dixon, 1980). The basic claim underlying contemporary cognitive theories is that individuals continually assess the stimuli they encounter by making a limited number of appraisals. Appraisals are evaluations related to the impact that situational features have on a person's well-being (Lazarus, 1991). Positive emotions emerge when there

is appraised benefit, and negative emotions are elicited by appraised harm. Recent investigators (Kuiper, Martin & Dance, 1992; Kuiper, McKenzie, & Belanger, 1995) have come to view a sense of humour as an appraisal-focused coping strategy. Empirical findings have indicated that humorous individuals view stressful events as more positively challenging than those with less humour, resulting in both less negative affect (Lefcourt & Martin, 1986) and the maintenance of more positive affect (Kuiper, Martin & Dance, 1992; Kuiper, McKenzie, & Belanger, 1995). As an appraisal-focused coping strategy, a sense of humour may also be another *constructive mode of regulation* that would enable individuals not only to modulate direct negative emotional arousal but negative emotional arousal *based on empathy* (see Figure 3). Thus a more humorous individual would be prone to experience higher levels of positive affect and lower levels of negative affect which, in turn, would relate differently to each empathy-related characteristic as previously discussed.

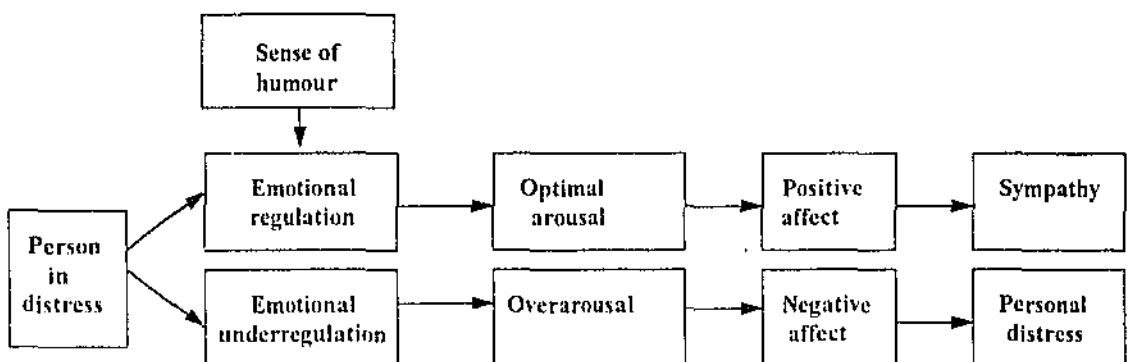


Figure 3. Predictors of sympathy and personal distress. Note that optimal regulation signifies, in this case, a sense of humour.

Sense of Humour: Definitional Issues

As the term “sense of humour” implies, research on the topic has made the assumption that individuals differ in stable and predictable ways in the manner in which they understand, appreciate and produce humour. However, as with empathy-related constructs, there has been some disagreement of what a good sense of humour is. Attempts to measure sense of humour and its relationship to stress reduction have focused on a number of theoretical approaches and various definitions of the construct (Thorson & Powell, 1994).

Eysenck (1972) suggested that a good sense of humour may be defined in (a) the *conformist* sense, which focuses on the extent to which a person agrees with what others consider as humorous; (b) the *quantitative* sense, which emphasises a person’s propensity to laugh or smile; and (c) the *productive* sense, which refers to the extent to which a person can create original humorous stories, jokes or witty remarks. Moody (1978) added to this categorisation to include the *cosmic perspective* sense, referring to the ability to see oneself and others in a somewhat distant and detached way. He suggested that this meaning is important when looking at the therapeutic effects of humour as a coping strategy. Thus, a number of theoretical perspectives have been advanced to explain the beneficial effects of a sense of humour. They can be classified according to three broad categories.

Arousal theories of humour (incorporating the Freudian perspective) suggest that responding with humour and laughter in a stressful situation may reduce the physiological arousal experienced, or alter one’s perception and experience of the arousal in such a way as it is not experienced as negative or aversive (Martin & Lefcourt, 1986). Thus, humour and laughter may be associated with emotion-focused

coping effects. *Incongruity* theory, which emphasises the cognitive-perceptual processes involved in humour, postulates that a humorous response to a stressful situation presupposes a changing of one's perspective on the situation. The ability to broaden one's perspective is seen as a healthy response leading to more adequate problem-solving and coping strategies (Dixon, 1980). Finally, the *superiority* theory focuses on the enhanced feelings of self-esteem, mastery, confidence and the reduced feelings of threat that result from a humorous approach to a stressful experience (Levine, 1977; Holland, 1982). When faced with an anxiety-evoking situation, the individual uses humour to restore feelings of mastery and regain a sense of control over the environment.

These different paradigms can be viewed as complementary and a number of studies have begun to look at empirical confirmation of the theories with regard to humour as a coping mechanism for stressful experiences. However, methodological problems in regard to the diversity of definitions and measurement instruments used, as with the empathy-related constructs, have resulted in inconsistent conclusions. Initially, the measurement of individual differences in humour equated sense of humour with humour appreciation, and humour appreciation with laughter (Thorson & Powell, 1993; Thorson & Powell, 1996). As a result, assessment of humour has tended to focus on people's appreciation of various *types* of humour; that is, whether they indicate a preference for sexual, aggressive or non-sensical humour. Having participants rate the funniness of jokes or laugh at a comedy routine, is not necessarily related to the perception, creation and enjoyment of humour in individuals' daily lives. For example, Babad (1974) found no relation between subjects' scores on typical humour scales and peer ratings of sense of humour. Arguably, when focusing on

humour as a response to a stressful situation, measures of humour need to be content free, while assessing an individual's actual sense of humour in everyday life.

The important distinction between appreciation of humour (getting the joke) and humour as a coping response, led Martin and Lefcourt (1984) to develop the Coping Humour Scale (CHS) which was designed to assess the degree to which respondents report use of humour *to cope* with stressful life experiences. Using this self-report measure, their research has employed a moderator variable paradigm to examine the interaction between sense of humour and life stress in predicting various outcome variables, such as mood disturbance and immunoglobulin levels (Lefcourt & Martin, 1986; Martin & Doobin, 1988; Martin & Lefcourt, 1983).

Sense of Humour and Stress Moderator Research

Findings from stress moderator research (Kuiper, Martin, & Dance, 1992; Martin & Lefcourt, 1984) indicate an interactive effect whereby sense of humour moderates the impact of stressful life events on negative moods such as depression, anxiety and anger. Low scorers on the humour measures have displayed higher levels of disturbed mood in response to increased levels of stressful events. In contrast, those who have displayed a high sense of humour have shown little or no increase in disturbed moods in response to an increase in stressful life events (Lefcourt & Martin, 1986). These findings have also been replicated in a prospective analysis by Nezu, Nezu and Blisset (1988). The same self-report measures (Coping Humour Scale) administered two months apart to assess changes in scores on depression, indicated that participants who used humour to cope were less depressed by high negative stress than participants who were low in the use of humour to cope.

In addition, similar findings have occurred in research investigating the moderating effects of sense of humour on the relationship between stress and physiological functioning. For example, Dillon, Minchoff, and Baker (1985) found a strong correlation ($r = .75, p < .02$) between Coping Humour Scale (CHS) scores and levels of secretory immunoglobulin -A (S-IgA), an important immunoglobulin in the body's defence against upper respiratory infections. In a later study, Dillon and Totten (1989) studied women just prior to giving birth and two months after. They found a high positive correlation ($r = .61$) between Coping Humour scores and salivary S-IgA. Furthermore, scores in mothers were significantly negatively correlated with the number of infections experienced by both mothers ($r = .51$) and their babies ($r = .58$), during the two months following delivery.

Although there is substantial evidence for the stress-moderating effect of humour on moods, some mixed findings have occurred. Porterfield (1987), for example, found in a sample of 220 undergraduates, that there was a simple main effect between humour and depression, but no evidence was found for humour moderating the impact of negative life events on either depression or physical illness. Similarly, Thorson, Powell, Sarmany-Schuller and Hampes (in press) only found a significant negative correlation ($r = -.34$) between a self-report humour measure and a 13 item illness inventory. These results suggest that a main effects model may be more appropriate in explaining the relationship between humour and physical symptoms, whereas an interactive effect is more relevant in examining the relationship between humour and stressful events in predicting depressed affect (Martin & Lefcourt, 1983).

In a related area of research, a series of studies have been conducted to investigate the relationship between sense of humour and personality variables in

order to examine more specifically the ways in which humour may buffer the effects of stress.

Sense of Humour and Personality Correlates

In looking at the relationship between humour scales and a variety of self-concept measures, Kuiper and Martin (1993) found coping humour (as measured by the CHS) to be significantly positively correlated with scores on a self-esteem scale ($r = .35$). In addition, coping humour was negatively related to the Dysfunctional Attitudes Scale, a measure of the degree to which subjects hold unrealistic, and irrational standards for evaluating perceptions of their self-worth ($r = -.36$).

In another study, Kuiper, Martin and Olinger (1993) demonstrated coping humour scores to be associated with increased use of emotional distancing techniques ($r = .27, p < .05$) as assessed by the Ways of Coping Scale (Folkman & Lazarus, 1985). Individuals also scoring highly on the Coping Humour Scale reported greater use of confrontive coping strategies ($r = .32, p < .025$) (see also Rimm, 1988). Hampes (1992) found significantly higher intimacy and lower isolation scores (referring to Erickson's concept of the degree to which individuals have resolved the crises of isolation versus intimacy) for subjects with higher scores on coping humour. Finally, Korotkov and Hannah (1994) showed positive correlations between coping humour and a measure of dispositional optimism ($r = .40$) as well as a measure of sense of coherence ($r = .34$).

Overall, while correlations tend to be low, consistent results from these studies investigating the personality correlates of sense of humour, suggest that the more effective coping abilities of individuals with higher humour seem to function to protect the self, resulting in a healthier self-concept and higher self esteem, greater

optimism and higher levels of intimacy. However, the correlational nature of such research discussed cannot demonstrate causality. Although significant findings have generally been interpreted to mean that a sense of humour helps one to cope more effectively with life stress, it could equally be interpreted as indicating that a greater sense of humour results from better coping.

Sense of Humour and Positive Affect

Although the above-mentioned stress moderator research has been important, it is limited by the fact that it focuses exclusively on *negative* aspects of well-being. In other words, this research has generally focused on how a well-developed sense of humour may function to reduce negative emotional responses such as depression or anxiety, that are often associated with adverse life events. Little consideration had been given to the how a well-developed sense of humour might contribute to quality of life in a *positive* direction. To address this limitation, Kuiper, Martin and Dance (1992) examined the relation between negative life events and both *positive* and negative affect, given the recent empirical work in establishing the independent dimensions of negative and positive affect as previously stated (Watson, Clark, & Tellegen, 1988). They had subjects complete the Positive and Negative Affect Schedule (PANAS) for each day for a 2-week period, as well a measure of positive and negative life events that had occurred in the past month. In assessing whether individuals with a greater sense of humour will *generally* display higher levels of positive affect and lower levels of negative affect, regardless of specific life circumstances, it was found that sense of humour was positively related to positive affect ($r = .31, p < .05$) but unrelated to levels of negative affect. Moreover, hierarchical multiple regression analyses employed to predict mean positive mood

scores from negative life events revealed significant interactions of humour with negative life events in predicting positive affect. That is, those individuals with high levels of humour displayed higher levels of positive affect in response to positive life events, and more humorous individuals, when faced with negative life events, continued to display high levels of positive affect. On the contrary, those individuals with lower sense of humour scores showed much lower levels of positive affect in response to increased negative life events.

This study indicated a more consistent relationship between sense of humour and positive affect than that of negative affect levels when negative life experiences increased. This pattern is consistent with previous cited studies investigating the personality correlates of humorous individuals indicating that more humorous individuals report generally higher levels of self-esteem (Kuiper & Martin, 1993) and more optimism (Korotkov & Hannah, 1994). However, the finding that negative affect (as assessed by the PANAS measure) was unrelated to sense of humour needs to be taken with caution. The PANAS differs significantly from prior measures in that it offers an *independent* assessment of both negative and positive affect. Thus, it may be inappropriate to make comparisons between this study and prior work employing depression and anxiety scales.

Processes Behind Humour as a Coping Variable

Although research has accumulated evidence for the mitigating effect of sense of humour on stress, recent studies have begun to address the *processes* by which sense of humour may reduce the effects of stress, by focusing on cognitive appraisals involved in coping and managing stress (Kuiper, Martin, & Olinger, 1993; Kuiper, Martin, & Dance, 1992; Kuiper, McKenzie, & Belanger, 1995). As an *appraisal-*

focused coping strategy, a humorous response to a stressful situation may enable individuals to emotionally distance themselves from a stressful event by generating alternative cognitive perspectives, and reappraising it as less threatening and, therefore, less stressful (Dixon, 1980; Nezu, et al., 1988; Martin, 1989). In exploring this notion, Kuiper, Martin and Olinger (1993) examined the relationship between coping humour and cognitive appraisals of a psychology course exam among 44 female university students. Results showed that individuals who displayed higher scores on the Coping Humour Scale (CHS) appraised the exam as more of a positive challenge ($r = .31, p < .025$) rather than a negative threat ($r = .17, ns$). Following the exam, and congruent with the pattern of initial appraisals, the same participants with higher coping humour scores showed a positive correlation between their actual performance on the exam and their reappraisals of it as a positive challenge, ($r = .29, p < .025$), whereas those with low coping humour scores did not. Finally, when asked to predict their next exam scores, higher scorers on coping humour adjusted their expectations on the bases of their performance on the exam, whereas those with low coping humour scores did not. This study provides support for the hypothesis that a sense of humour, in association to coping with stress, may be related to cognitive appraisals made about stressful events. Those with a greater sense of humour appear to appraise potentially stressful events as more challenging rather than threatening, and are able to evaluate their own performance on the exam and to adjust their expectations for future performances in a more realistic and self-protective way.

In a further investigation of the processes underlying sense of humour as a coping strategy, Kuiper, McKenzie, and Belanger (1995) had 81 undergraduate psychology students select their most pleasant and stressful experiences over a past

month, and asked them the degree to which they were able to change their perspective or point of view when attempting to cope with such events. Individuals with high humour scores reported being more able to see their stressful experiences from different perspectives more frequently ($r = .22, p < .05$), that these changes in perspective resulted in more positive perceptions of the events ($r = .30, p < .01$), and that they were more likely to make a conscious effort to view their problems from an alternate perspective ($r = .36, p < .001$). In a second study, a further 81 participants provided cognitive appraisals both before and after completing drawing tasks. Higher levels of coping humour was positively associated with the task as being appraised as a positive challenge ($r = .31, p < .001$) and negatively related to the task as being appraised a negative threat prior to the task ($r = -.24, p < .05$;) Furthermore, coping humour was positively correlated with the degree of task motivation (e.g., $r = .26, p < .025$) and with ratings of positive affect following the task (e.g., $r = .40, p < .001$), but was independent of negative affect. Conversely, higher threat appraisals were linked to higher negative affect levels ($r = .62, p < .001$), but did not bear on positive affect. These findings add support for the multidimensionality of positive and negative affect as independent dimensions (Watson, Clark, & Tellegen, 1988).

Summary

In conclusion, the literature on humour indicates that an increased sense of humour moderates the detrimental impact of negative life events resulting in lower levels of perceived stress and depression (Overholser, 1992) and the maintenance of more positive affect (Kuiper, Martin and Dance, 1992). A higher sense of humour is also associated with facilitating more positive challenge appraisals for stressful events,

which is related to increased secondary appraisals of personal control and importance, and higher levels of motivation. In addition, those with a greater sense of humour display more flexibility in terms of changing their perspective on stressful events, which in turn provides greater emotional distancing from the aversive event (McGhee, 1979; Dixon, 1980; Lefcourt & Martin, 1986). This is also in accord with humour being related to increased levels of creativity, mental flexibility and divergent thinking (McGhee, 1979; Murdock & Ganim, 1993). Such increased flexibility and divergent thinking allow humorous individuals to view stressful events from a broader range of perspectives, resulting in greater emotional distancing and the maintenance of positive affect.

The Present Study

Studies investigating the personality correlates of empathy-related characteristics (e.g., Eisenberg, et al., 1994; Eisenberg & Okun, 1996) have shown that, particularly with regard to dispositional measures, individual differences in emotion regulation have been associated with individuals' affect levels as well as their empathy-related responses. That is, high levels of regulation have been correlated with higher levels of positive affect which, in turn, has been correlated with more dispositional sympathy. In contrast, low regulation has been positively correlated with negative affect which, in turn, has been positively associated with personal distress. Thus, individuals prone to negative affectivity (e.g., the propensity to experience negative emotions) seem to be likely to become self-focused when exposed to others in distress. Moreover, in an independent area of research, it has been shown that an increased sense of humour moderates the detrimental impact of negative life events, resulting in lower levels of perceived stress and depression (Nezu, et al, 1988) and the

maintenance of more positive affect (Kuiper, et al., 1992). The beneficial effects of humour are also evident in the types of cognitive appraisals made, with humourous individuals viewing stressful events as more positively challenging than those with less humour (Kuiper, Martin, & Olinger, 1993)

The Model

The present study, by linking two sets of findings that have been pursued independently proposes that a sense of humour, as a constructive mode of emotional regulation (i.e., as an appraisal-focused coping strategy), not only enables humourous individuals to regulate (modulate) their *direct* negative emotional experiences, but to regulate their negative emotional states *based on empathy*. It tests a model which proposes that positive (and perhaps) negative affect mediates the association between coping humour and the three-empathy related constructs (see Figure 4). According to this model, a sense of humour is significantly associated with positive affect, which in turn predicts an empathy-related response (e.g., sympathy, personal distress, perspective taking). More specifically, it predicts that more humourous individuals, who are able to modulate their negative emotional experiences via cognitive appraisals, would be prone to experience higher levels of positive affect than less humourous individuals. These humourous individuals, in turn, would tend to be prone to experience more sympathy and perspective taking (which are both other-orientated responses) instead of self-focused personal distress. In addition, humour may be linked to sympathy via a third variable. Hampes (no date), in an unpublished study, found a correlation of .41 ($p < .01$) between coping humour and a measure of altruism. Yet in another study, he found people high on generativity

(Erickson's (1963) concept associated with productivity, creativity and caring) scored higher on coping humour than those low on generativity ($t(54) = 3.14, p < .01$) (Hampes, 1993). He surmised that humour could produce generativity because of its association to reduction of stress which, in turn, should facilitate generative pursuits of nurturance and caring.

In contrast, it is less certain whether a sense of humour would be related to

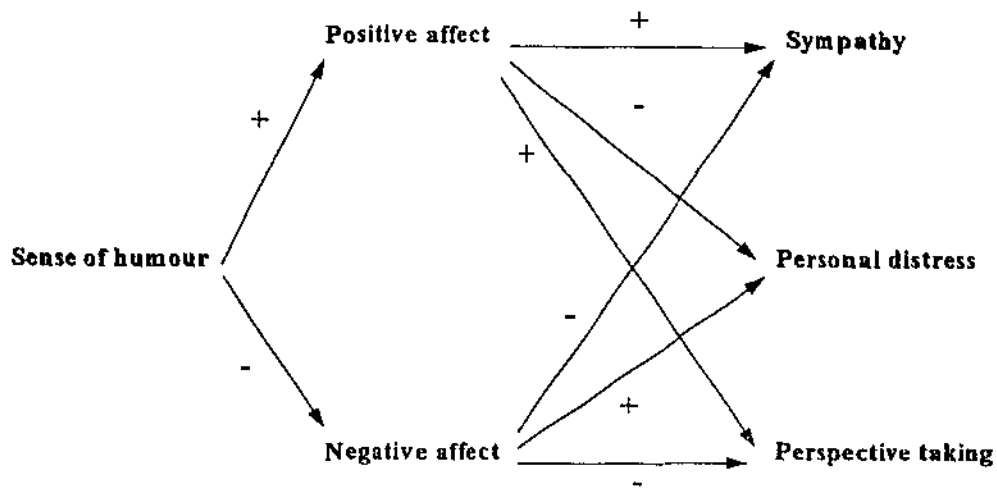


Figure 4. Proposed model of the association between sense of humour and the empathy-related constructs via the mediating variables of positive and negative affect. *Note.* Plus signs indicate predicted positive associations, and minus signs represent predicted negative associations.

negative affect, given the inconsistent findings in the literature which has depended on the measure employed to assess negative affect(e.g., anxiety, depression, or the PANAS measures). If there is a relationship, this should be a negative one. However, negative affect would be expected to be correlated with personal distress, but unrelated to sympathy or perspective taking. Individuals who are high in negative affectivity would be expected to be likely to become self-focused rather than other-orientated when exposed to others in distress (Eisenberg et al., 1994).

To test the conceptual model, path analysis was employed with coping humour as the predictor variable, assessed by the Coping Humour Scale (Lefcourt & Martin, 1984, 1986), employed in a number of studies previously reviewed to assess the extent to which respondents' *utilise* humour as a coping strategy for dealing with a stressful life circumstances. The independent dimensions of positive and negative affect, as mediating variables in the model, were assessed by the Positive and Negative Affect Schedule (PANAS: Watson, et al., 1988) as used in studies on humour and empathy. Finally, the empathy-related constructs of sympathy, personal distress and perspective taking, as criterion variables in the model, were assessed via the Interpersonal Reactivity Index (IRI: Davis, 1980) which takes a multidimensional view of empathy and measures the affective components of sympathy, personal distress and the cognitive component of perspective taking.

The model promulgates the following hypotheses (see Figure 4):

- Firstly, it is predicted that coping humour will be positively associated with positive affect, which, in turn, will be positively related to sympathy and perspective taking, and inversely associated with personal distress.
- Secondly, but somewhat more tentatively, it is expected that coping humour will be negatively associated with negative affect. Negative affect, in turn, would be expected to be positively associated with personal distress, and negatively associated with sympathy and perspective taking.

The degree to which positive and negative affect play a mediating role is not clear as a sense of humour may also directly associated with sympathy (Hampes, no date; Hampes, 1993) and personal distress. In addition, a sense of humour may be related to perspective taking because a sense of humour has been associated with

flexibility in changing perspective in reappraising stressful events from different vantage points (Dixon, 1980; Kuiper, et al. 1995). These same cognitive attributes may be present in the ability to perspective take.

CHAPTER 2

METHOD

Participants

Two hundred and twenty nine unpaid voluntary participants from the general community participated in the study (145 females, 78 males, 5 gender not reported). They were obtained using a snowball sampling technique. Three hundred 300 questionnaire packets were disseminated and 232 were returned, representing a response rate of 77 percent. Of those returned, six questionnaires were discarded because they were incorrectly completed or had missing values on more than 5 percent of cases. The age of the participants ranged between 18 and 65 plus years, and modal age was between 41 and 52 years of age (participants indicated their age according to six age-range intervals). Eighteen percent were between 18 and 28 years of age and five percent equal to or older than 53 years of age.

Design

The survey research process employed a cross-sectional design and included a battery of four self-administered/self-report questionnaire measures, counterbalanced in a random sequence across 300 survey packets. A cover letter explained the nature of the study, that it was to be completed voluntarily, and that anonymity of respondents was assured. Standard demographic items relating to sex and age were also included. The questionnaires used in this study were as follows.

Questionnaires

Predictor Variables: Self-report Measure of Dispositional Sense of Humour.

The Coping Humor Scale (Lefcourt & Martin, 1986) measures the degree to which participants use humour to deal with stressful experiences. It has seven items,

each of which has four options in Likert format ranging from “strongly disagree” (1) to “strongly agree” (4). Example items include, “I have often found that my problems have been greatly reduced when I have tried to find something funny in them,” and “I often lose my sense of humour when I’m having problems” (reverse coded for scoring). Examination of the corrected item-total correlations showed that another reversed scored item “I must admit my life would probably be easier if I had more of a sense of humour” was unrelated to the total scale score ($r = .13$). Its deletion raised the alpha for the scale in the present study from .70 to .75 (internal consistencies in other studies have ranged from .60 to .70: Lefcourt & Martin, 1986). Lefcourt (personal communication, August, 1996) stated that research has indicated that the reliability of the scale is increased by leaving out this item, as it appears that it is interpreted by respondents in inconsistent ways. As a result, this more reliable 6-item version of the CHS was used.

The validity of the CHS has been established by a number of studies, that have shown significant correlations with peer ratings of sense of humour ($r = .64, p < .001$; Lefcourt & Martin, 1986), the ability to generate humorous monologues by participants while watching a stressful film ($r = .50, p < .01$; Lefcourt & Martin, 1986), increased levels of immunoglobulins ($r = .75, p < .01$; Dillon, Minchoff & Baker, 1985), and decreased stress levels associated with dental surgery ($r = -.39, p < .01$; Trice & Price, 1986; see also Lefcourt & Martin, 1986). Finally, Trice and Price (1986) found a test-retest index of .92 at a 4-week interval, and Overholser (1992) demonstrated a test-retest reliability of .80 over a 12 week period for the CHS. In addition, scores on the CHS are not significantly correlated with scores on the Marlow-Crowne Social Desirability Scale (r s range from $-.10$ to $+.10$), suggesting

that the CHS is not affected by social desirability (Lefcourt & Martin, 1986; Kuiper, Martin, & Olinger, 1993).

Mediating Variables: Self-report Measures of Dispositional Affect.

The Positive and Negative Affect Scale (PANAS: Watson et al., 1988) consists of 20 positive and negative feelings and emotions. Ten positive items include 'enthusiastic', 'inspired', and 'interested, whereas negative items include "upset", "nervous", and "afraid". Subjects are asked to rate on a 5-point scale from (1) "very slightly or not at all" to (5) "extremely" the extent to which they have felt a particular emotion for a specified time period (e.g., at this moment, daily, for the past two weeks, etc.). The version employed in the present study asked subjects to rate the extent to which they had felt this way generally or on the average, thus assessing an individual's trait or dispositional measure of affect. Cronbach alphas for the 10 positive and negative items in the present sample were respectively .82 and .86, which was similar to previously reported internal consistencies of .86 to .90 for the Positive Affect Scale and .84 to .87 for the Negative Affect Scale (Watson et al., 1988). Factor analyses have consistently demonstrated the two expected orthogonal dimensions of positive and negative affect (accounting for 87 to 96% of the variance) which have been independently related to a number of personality correlates (e.g., social activity correlated with PA but not NA; perceived stress correlated with NA but not PA: Watson, et al., 1988), thus confirming the independence of the dimensions of positive and negative affect.

Criterion Variables: Self-report Measures of Dispositional Empathy-Related Constructs.

Three of the four 7-item subscales from Davis's (1980, 1983) Interpersonal Reactivity Index were used to assess individual differences in a specific aspect of empathy. The *empathic concern* scale, which includes three reversed score items, assesses the tendency to experience feelings of sympathy, warmth and concern for unfortunate others. An example of a positively scored item is "I often have tender, concerned feelings for people less fortunate than me". An item to be reversed in scoring includes "Sometimes I don't feel very sorry for other people when they are having problems". The alpha for the subscale in this sample was .64, which was somewhat lower than other reported internal reliabilities ($\alpha = .76$; Eisenberg, et al., 1994). The *personal distress* scale, also assesses emotional reactions, but rather than other-orientated feelings of concern, it measures one's own feelings of personal distress, unease and discomfort to extreme distress in others. Example items include "When I see someone who badly needs help in an emergency, I go to pieces" and "When I see someone get hurt, I tend to remain calm" (reversed coded for scoring). Internal consistency for this subscale yielded an alpha of .78 which is consistent with previous research (Davis, 1983; Eisenberg, et al., 1996). Finally, the *perspective taking* scale measures a more cognitive component of empathy, that is, the reported tendency to adopt the psychological point of view of others in normal life circumstances (e.g., "When I'm upset at people, I usually try to 'put myself in their shoes for awhile' "). It contains two negatively phrased items (e.g., "If I'm sure I'm right about something, I don't waste much time listening to other people's

arguments”). Similar to previous research, an alpha, of .66 was recorded for this study.

On all the empathy subscales, respondents are asked to indicate the degree to which items in the scale describes them by choosing the appropriate response on a five-point Likert scale from (0) “does not describe me well” to (4) “describes me very well”. Items were reversed when necessary, so that a high score indicated high levels of the empathy-related characteristics. Although all constructs are related (e.g., sympathy and perspective taking tend to be correlated (Davis, 1983; Davis, 1994; Eisenberg et al., 1994), they are also conceptually distinct and are differentially related to various measures of individual differences (see Davis, 1994; Gross, 1994; Eisenberg, et al., 1994). For example, Davis (1983) found a relatively strong positive correlation between personal distress and scores on fearfulness (ranging from .53 and .59, $p < .05$) and weaker positive correlations (ranging from .10 to .16) for sympathy. Similarly, Carlo et al., (1991) found that personal distress, but not sympathy, loaded onto the same factor as affective intensity. Perspective taking was found to be negatively correlated with fearfulness ($r = -.22$, $p < .05$). Test-retest reliabilities for the scales have ranged from .61 to .81 over a two-month period (Davis, 1980) and from .50 to .62 over a two-year period during adolescence (Davis & Franzoi, 1991; see also Davis, 1994).

The other 7-item subscale, the *Fantasy Scale* (FS), which taps the ability to imagine the feelings and actions of fictitious characters in books, movies and plays, was not used in this study. This subscale, unlike the previous three, has not been identified by previous theory and research as an important aspect of empathy (Davis, 1980).

Demographics. Finally, participants were asked questions regarding their sex and age using five categories: "18-28," "29-49," "41-52," "53-64," and "65+".

Procedure

Via a snowball sampling technique, 15 individuals known to the researcher including friends, work colleagues, co-students and contacts, were requested to distribute (but not to fill out) 15 survey packets containing the three questionnaires to a wide a variety of individuals to complete and/or to further pass on to other individuals for completion and/or further distribution, and so on. This process was continued until all questionnaires were handed out. All individuals who agreed to distribute questionnaires were instructed not to give them to individuals who knew each other or knew the researcher.

During the snowball process, both the completion of the questionnaires and participation in the dissemination process was entirely voluntary and no remuneration was given. Furthermore, to assure anonymity and to increase the chances of a greater response rate, each survey packet was provided with a self-addressed stamped envelope.

CHAPTER FOUR

RESULTS

Data Screening

Prior to all analyses, data screening for accurate data entry and the evaluation of assumptions for all variables separately for males and females was conducted. One male univariate outlier on negative affect, identified by a z-score greater than +3, was changed to one score larger than the next most extreme score for the relevant variable (Tabachnick & Fidell, 1989). For the female group, two multivariate outliers among the IVs, detected employing Mahalanobis distance with $p < .001$ (Tabachnick & Fidell, 1989) were deleted from the analysis. After viewing normal probability and detrended normal probability plots to assess normality of all variables for the two groups, it was found that both males and females negative affect scores were positively skewed. However, as a repeat analysis using a natural logarithmic transformation of the scores revealed substantially equivalent results, the original scores were retained for the analysis. Finally, pairwise linearity within each group among all variables employing scatterplots was deemed to be satisfactory (Tabachnick & Fidell, 1989).

Sex Differences

An initial MANOVA exploring significant individual differences as a function of gender on all measures (empathy-related responses, Coping Humour, PANAS Scale) was employed to determine whether all data should be combined for analysis. A significant overall Pillai's indicated that the combined DVs were significantly affected by sex,

$F(6, 209) = 4.12, p = .001$. On further investigation, univariate tests, employing a

Bonferroni adjustment ($\alpha = .008$), showed that females scored significantly higher than males in sympathy, $F(1, 214) = 11.91, p = .001$, and personal distress,

$F(1,214) = 11.82, p = .002$. This is in accord with previous research which has shown that females consistently report more sympathy and personal distress than males (Eisenberg & Lennon, 1983). In addition, with $\alpha < .05$, female scores were higher than males on perspective taking. Thus all further analyses in the present study were performed for the whole sample as well as separately for males and females. Table 1 presents the mean scores and standard deviations for the empathy-related, coping humour, and PANAS measures for the whole sample, and Table 2 shows the descriptive statistics for males and females. Tables 3 and 4 show the intercorrelations for the empathy, humour and affect measures for the whole sample as well as for both males and females.

Table 1
Means and Standard Deviations for Full Sample

Measures	<i>n</i>	<i>M</i>	<i>SD</i>
Empathy-related characteristics			
Sympathy ^a	220	24.04	4.29
Personal distress ^a	220	10.16	5.27
Perspective taking ^a	220	18.06	4.41
Coping Humour ^c	217	17.61	3.25
Dispositional Affect ^d			
Positive	221	37.06	5.61
Negative	221	19.82	6.68

a. Possible scores range from 0 to 23.

b. Possible scores range from 0 to 96.

c. Possible scores range from 1 to 24.

d. Possible scores range from 10 to 50.

Table 2

Means and Standard Deviations for Males and Females

Measures	Women			Men		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Empathy-related characteristics						
Sympathy ^a	143	21.77	3.87	77	19.70	4.55
Personal distress ^a	143	11.07	5.17	77	8.50	5.10
Perspective taking ^a	143	18.56	3.99	77	17.12	4.99
Coping Humour ^c	140	17.41	3.38	77	17.97	2.91
Dispositional Affect ^d						
Positive	143	36.97	5.25	78	37.21	6.29
Negative	143	20.06	6.86	78	19.38	5.70

a. Possible scores range from 0 to 28.

b. Possible scores range from 0 to 96.

c. Possible scores range from 1 to 24.

d. Possible scores range from 10 to 50

Table 3

Pearson Product-Moment Correlations among Coping Humor, Positive and Negative Affect, and the Three Empathy-Related Responses For Full Sample

Measure	CHS	SYM	PD	PT	PA
Coping Humour Scale (CHS)					
Sympathy (SYM)	.11				
Personal Distress (PD)	-.24**	.15*			
Perspective Taking (PT)	.01	.39**	-.05		
Positive affect (PA)	.33**	.06	-.27**	.04	
Negative Affect (NA)	-.13*	.12*	.31**	-.14*	-.06

* $p < .05$, ** $p < .01$ (one-tailed) *Note.* All correlations are based on pairwise deletion of data.

Table 4

Pearson Product-Moment Correlations among Coping Humor, Positive and Negative Affect, and the Three Empathy-Related Responses and For Males and Females

Measure	CHS	SYM	PD	PT	PA	NA
Coping Humour Scale (CHS)	-----	.02	-.22**	.09	.27**	-.14
Sympathy (SYM)	.31**	-----	.16*	.34**	-.15*	.02
Personal Distress (PD)	-.23*	.02	-----	-.21**	-.24**	.38**
Perspective Taking (PT)	-.07	.40**	.08	-----	.08	-.28**
Positive affect (PA)	.44**	.36**	-.31**	-.01	-----	-.12
Negative Affect (NA)	-.10	.26*	.17	.05	.04	-----

* $p < .05$, ** $p < .01$ (one-tailed)

Note. Women's correlations appear above the diagonal in bold text. All correlations are based on pairwise deletion of data.

Plan of Analyses

The model postulated that positive and negative affect would mediate the association between coping humour and the three empathy-related constructs. Path analysis was used according to the procedure for testing mediating effects (Baron & Kenny, 1986; Pedhazur, 1982; Asher, 1976). Multiple regression analyses were conducted first using each empathy-related construct (i.e., sympathy, personal distress and perspective taking) as criterion variables. The predictor variable of coping humour and the two mediating variables of positive and negative affect were entered into the regression

model simultaneously, thereby allowing the effects of each of the variables to be examined while taking into account the rest of the variables in the model. The same procedure was performed using positive and negative affect scores as the criterion variables in a multiple regression analyses to test the effect of the coping humour variable on the mediating variables of positive and negative affect. The standardised regression coefficients were used as path coefficients for the model. LISREL (Joreskog & Sorbom, 1993) was employed to examine the significance of the indirect paths.

The Overall Path Model

As depicted in Figure 5, significant path coefficients were found between coping humour and positive affect (.34), and between positive affect and personal distress (-.20). Significant paths also occurred between negative affect and personal distress (.28), and between negative affect and perspective taking (-.14).

The total effect of coping humour on personal distress was significant $r(221) = -.24, p < .01$, such that people high on coping humour tend to be low on personal distress. As can be seen from Table 5 and Figure 5, this total effect can be decomposed into a significant direct effect (-.13) and two indirect effects, one through positive affect, and a second through negative affect.³ As shown in Table 5, the indirect effect through positive affect was significant (-.07), but through negative affect it was not (-.04). These patterns are in accord with the criteria for establishing mediation (Baron & Kenny, 1986). That is, the effect of coping humour on personal distress consists of an indirect effect involving mediation through positive affect. However, there was no mediation through negative affect. In addition, there is an additional direct effect of coping humour on personal distress that is not mediated by positive or negative affect.

³ Indirect effects are the product of the relevant path coefficients.

In sum, high scores on coping humour accompanied high scores on positive affect which, in turn, accompanied low scores on personal distress. From Table 5, it can be seen that 17 percent of the variance in personal distress can be explained by the combination of coping humour and positive and negative affect ($R^2 = .18$, $R = .42$). No significant effects were found between coping humour and sympathy or perspective taking.

Path Model For Males

As depicted in Figure 6, significant path coefficients were found between coping humour and positive affect (.44), and between positive affect and personal distress (-.27). This is consistent with path coefficients for the full sample. The total effect of coping humour on personal distress was significant (-.24), such that males who scored higher on coping humour tended to be low on personal distress. This total effect can be decomposed into a direct effect which was not significant (see Table 6) and two indirect effects where positive affect was significant (-.12) and negative affect was not (-.02).

Furthermore, as depicted in Figure 6, significant path coefficients were found between positive affect and sympathy (.25). The total effect of coping humour on sympathy was significant $r(76) = .31$, $p < .01$, such that males who tend to be high on coping humour tend to high on sympathy. As can be seen from Table 6 and Figure 6, the decomposition of this total effect showed that the direct effect was marginally significant (.22) and the indirect effect through positive affect was significant (.11), but that negative affect was not (-.03). Again this pattern is consistent with the criteria for establishing mediation (Baron & Kenny, 1986), that is, the effect of coping humour on sympathy consists primarily an indirect effect involving mediation through positive affect. While, it did not achieve significance, there is some suggestion of an additional direct effect of coping humour on sympathy that is not mediated by positive or negative affect. There was also a significant path between negative affect and sympathy (.28).

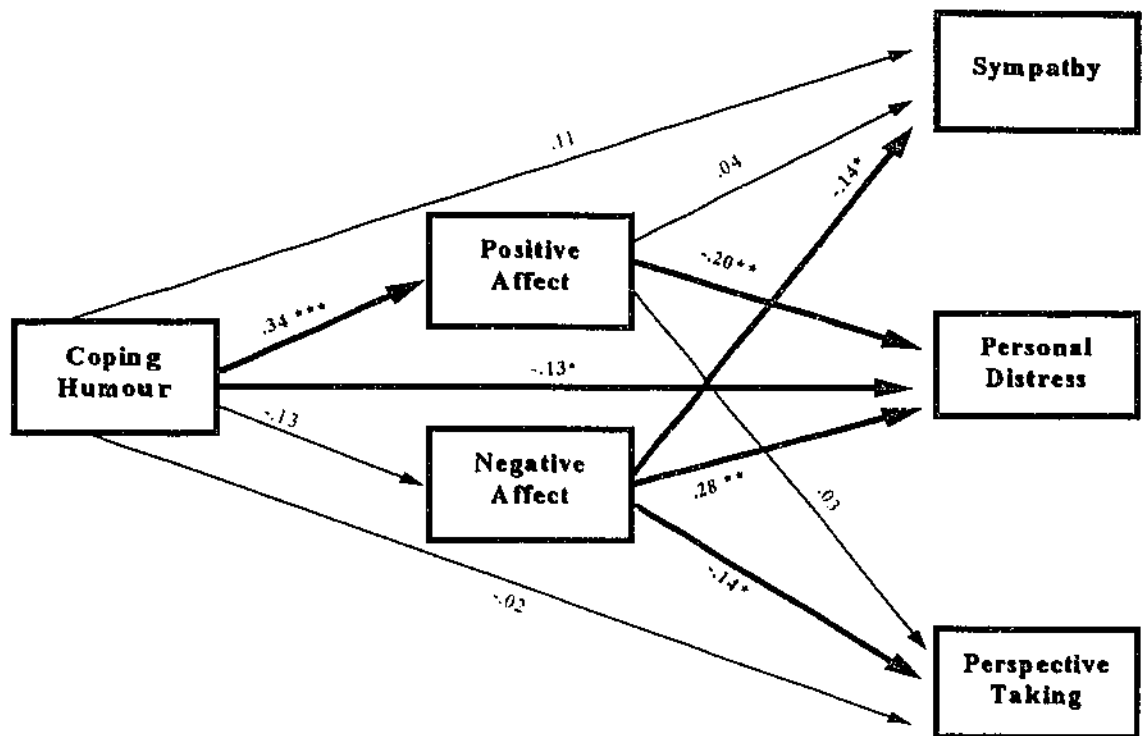


Figure 5. Path analytic model for full sample: observed associations between humour, affect and empathy-related responses. Standardised betas are shown for all paths.

* $p < .05$; ** $p < .01$; *** $p < .001$. Note. $N = 212-215$ based on pairwise deletion of data.

Table 5.

Effects of Coping Humour on Affect and Empathy-Related Variables for Full Sample

	Sympathy	Personal Distress	Perspective Taking
Coping Humour	.11	-.13*	-.02
<i>Direct Effect</i>			
Positive Affect	.01	-.07*	.01
<i>Indirect Affect</i>			
Negative Affect	-.02	-.04	-.02
<i>Indirect Effect</i>			
TOTAL EFFECT	.01	-.24**	-.03
R	.17	.42**	.15
R²	.03	.17**	.02

* $p < .05$. ** $p < .01$ *** $p < .001$.

In sum, for males high scores on coping humour accompanied high scores on positive affect which, in turn, accompanied low scores on personal distress and high scores on sympathy. From Table 6, it can be seen that 14 percent of the variance in personal distress and 23 percent of the variance in sympathy can be explained by the combination of coping humour and positive and negative affect.

Path Model For Females

As depicted in Figure 7, and consistent with that of the paths for the full sample and for males, significant path coefficients were found between coping humour and positive affect (.27), and between positive affect and personal distress (-.17). The only other significant path occurred between negative affect and personal distress (.34). The total effect of coping humour on personal distress was significant $t(138) = -2.3, p < .01$, such that females had higher coping humour tended also to be low on personal distress. As can be seen from Table 7 and Figure 7, the decomposition of this total effect revealed that the indirect effect through positive affect to be significant (-.05), but that the direct effect (-.13) and the indirect effect through negative affect (-.05) was not significant. Thus, the effect of coping humour on personal distress for females consists primarily of an indirect effect involving mediation through positive affect.

In sum, for females, high scores on coping humour accompanied high scores on positive affect, which, in turn, accompanied low scores in personal distress. This is consistent with the models for the full sample and for males. From Table 7, it can be seen that 20 percent of the variance in personal distress can be explained by the combination of coping humour and positive and negative affect.

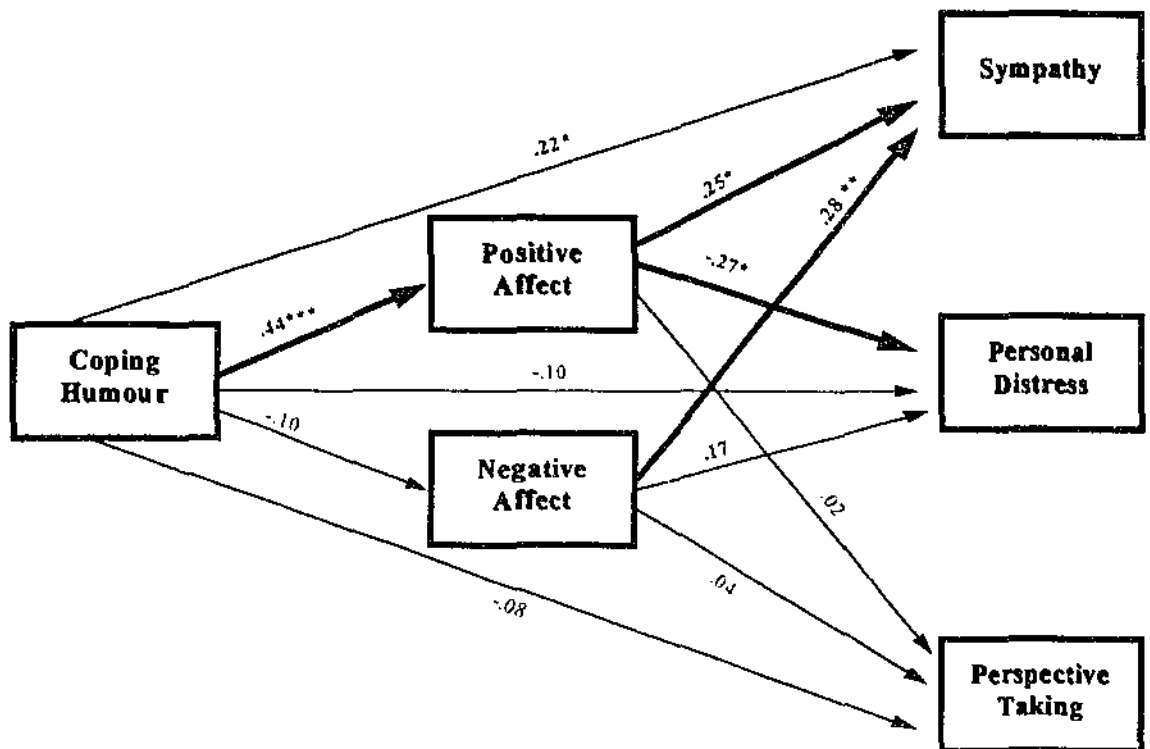


Figure 6. Path analytic model for males: observed associations between humour, affect and empathy - related responses. Standardised betas are shown for all paths.

* $p < .05$; ** $p < .01$; *** $p < .001$. Note. $N = 76-78$ based on pairwise deletion of data.

Table 6.

Effects of Coping Humour on Affect and Empathy-Related Variables for Males

	Sympathy	Personal distress	Perspective taking
Coping Humour			
<i>Direct Effect</i>	.22 ^a	-.10	-.08
Positive Affect			
<i>Indirect Effect</i>	.11*	-.12*	.009
Negative Affect			
<i>Indirect Effect</i>	-.03	-.02	.004
TOTAL EFFECT	.31**	-.24*	-.07
R	.48***	.37*	.08
R²	.23***	.14*	.007

* $p < .05$. ** $p < .01$. *** $p < .001$. ^a $p < .06$.

Summary

Consistent, with all three models, results showed that positive affect had a significant mediating effect between coping humour and personal distress. That is, both males and females who had high coping humour tended to have high levels of positive affect which, in turn, was associated with low levels of personal distress. In addition, coping humour had an indirect effect on sympathy through positive affect for males. Males, therefore, who had high scores on coping humour tended to score high on positive affect which, in turn, was accompanied by high levels of sympathy. In addition, coping humour had a marginally significant direct effect on sympathy for males. Finally, there were significant paths between negative affect and personal distress for females, and between negative affect and sympathy for males.

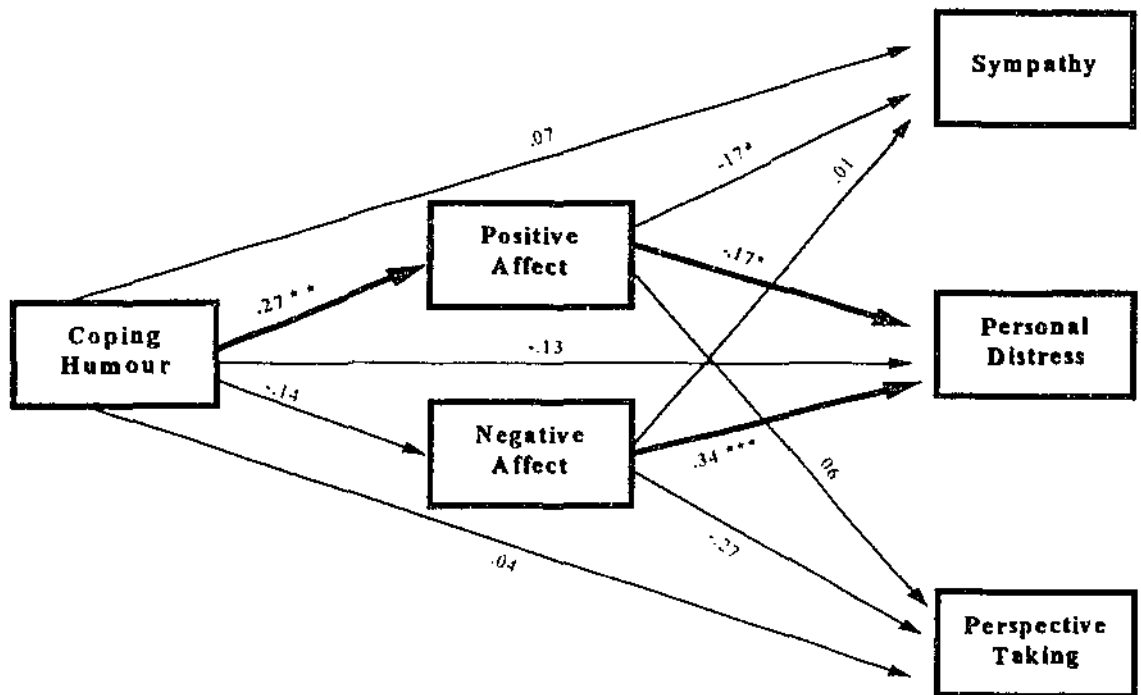


Figure 7. Path analytic model for females: observed associations between humour, affect and empathy-related responses. Standardised betas are shown for all paths.

* $p < .05$; ** $p < .01$; *** $p < .001$. Note. $N = 136$ -138 based on pairwise deletion of data.

Table 7.

Effects of Coping Humour on Affect and Empathy - Related Variables for Females

	Sympathy	Personal Distress	Perspective Taking
Coping Humour			
Direct Effect	.07	-.13	.04
Positive Affect			
Indirect Effect	-.05	-.05*	.02
Negative Affect			
Indirect Effect	-.00	-.05	.04
TOTAL EFFECT	.02	.23**	.10
R	.17	.47***	.29**
R²	.03	.20***	.08**

* $p < .05$. ** $p < .01$. *** $p < .001$.¹¹ $p < .06$.

CHAPTER 3

DISCUSSION

The present study tested a conceptual model in which it was hypothesised that positive and negative affect would mediate the association between coping humour and the empathy-related constructs of sympathy, personal distress and perspective taking. A consistent pattern that emerged in all three models (i.e., the total sample and males and female samples separately), was that coping humour had a significant negative total effect on personal distress. This comprised of a significant indirect effect mediated by positive affect. That is, both males and females who were high scorers on coping humour, tended to possess high positive affect levels which, in turn, accompanied low levels of personal distress. In only the full sample was there a significant direct effect of coping humour on personal distress in addition to an indirect effect.

Furthermore, the analyses showed that coping humour had a significant total effect on sympathy for males. This comprised a significant indirect affect mediated through positive affect, and a marginally significant direct effect for humour. Thus, positive affect may not totally mediate the association between humour and sympathy. Nevertheless, it again established the mediating role of positive affect plays in the association between coping humour and sympathy for males. That is, males who were high on coping humour tended to be high in positive affect which, in turn, not only accompanied reduced personal distress levels but, additionally, increased levels of sympathy.

With regard to perspective taking, coping humour did not have any direct nor indirect effect in any of the three models. However, negative affect was negatively associated with perspective taking in the full sample. Negative affect was not a mediating

variable in any model, as it was not associated with coping humour. However, it was positively associated with sympathy in males and personal distress in females.

The consistent finding in the present study, that positive affect mediated the association between coping humour and personal distress supports a major hypothesis of the study, and is in accord with prior literature. With regard to coping humour, it has been found that more humorous individuals generally report higher overall levels of positive affect and are able to maintain their positive affect levels in the face of negative events (Kuiper, et al., 1992). In contrast, less humorous individuals showed a considerable drop in positive affect responding as negative life events increased. For those with a greater sense of humour, this pattern is comparable with the proposal that these individuals engage in appropriate emotional distancing that facilitates threat reduction (Dixon, 1980; Kuiper et al., 1995). In turn, this would allow for the greater maintenance of positive emotions in the face of events (including witnessing another in distress) that would otherwise be considered more negative. This is consistent in the literature on empathy-related responding, which has associated emotional regulation with higher positive affect levels (Eisenberg and Okun, 1996). Positive affect has been demonstrated to be consistently negatively correlated with personal distress in a number of samples from the young to the elderly (Eisenberg, et al., 1994; Eisenberg & Okun, 1996). Because positive affect is associated with emotional regulation, it makes sense that it is negatively associated with personal distress, which itself is consistent with empathic overarousal and a self-focused reaction (Eisenberg & Fabes, 1992). Positive affect, however, is an outcome of optimal emotional regulation which accompanies an outward focus (Wood, Salzberg & Goldsamt, 1990). Because of the independent dimensions of positive and negative affect (Watson, Clark, & Tellegen, 1988), the maintenance of positive affect levels by an individual when faced with a distressed person may allow an individual to maintain an

optimal level of emotional arousal (i.e., one that has emotional force but it is not so aversive that it engenders a self-focus). In contrast, prior research has shown that people high in dispositional personal distress seem to experience negative affect and are low in positive affect (Eisenberg et al., 1994).

While the findings regarding the associations between coping humour, positive affect and personal distress were consistent for males and females, gender moderated the associations between the other variables. In the present study females scored significantly higher than males on self-reported dispositional sympathy and personal distress. This is consistent with prior research where females have consistently reported more sympathy and personal distress than males. This has been attributed to the fact that emotional reactivity, nurturance, caring and related characteristics are stereotypically more feminine than masculine (Eisenberg & Lennon, 1983).

Only for males did coping humour have a significant total effect on sympathy. This comprised of a significant indirect effect, again mediated by positive affect. That is, males who were high on coping humour, not only tended to possess high levels of positive affect, but positive affect was accompanied by higher levels of sympathy (in addition to lower levels of personal distress). This finding is similar to that of Eisenberg et al. (1990) who found boys' reports of sympathy to be negatively related to personal distress levels, supporting the notion that those prone to negative emotions, including personal distress, are relatively unlikely to experience sympathy. Consistent with this view, positive affect has been associated with optimal emotional regulation, which in turn, has been associated with sympathy (Eisenberg & Okun, 1996). Positive affect is associated with sympathy because positive emotions result in less self-focus enabling the individual to better able to respond to others' negative emotion in a productive manner (Staub, 1984).

The finding that positive affect was unrelated to sympathy for females contradicts prior findings with children and older adults (Eisenberg et al., 1996; Eisenberg & Okun, 1996). At present, it is difficult to interpret this finding, which indicated that there may be different processes occurring between males and females regarding affect and its relationship to empathy-related responses which requires further investigation. Indeed, Eisenberg et al. (1994) found positive affect to be unrelated to sympathy for both genders in a sample of psychology students.

Gender differences were also found in regard to negative affect and its association to sympathy and personal distress. Negative affect was associated with sympathy for males only and to personal distress for females only. This again suggests that there are different processes occurring between males and females. Men and women who tend to experience negative affect may be prone to vicarious emotional reactions when confronted by another's negative state. That is they are able to experience how needy another person feels. However, this may tend to result in personal distress for females and in sympathy for males. Males, for example, may tend to maintain an optimal level of emotional arousal (i.e., one that has emotional force but is not so aversive that it engenders personal distress) more than females. The reason why this may be the case needs further exploration. However, as negative affect consists of a number of discrete emotions including anxiety, anger, nervousness, guilt, sorrow and so on, it is conceivable that males and females may tend to respond differently to different negative emotions in others. For example, negative affect may be associated with sympathy in males because males may tend to experience the negative emotion of sorrow in response to another's distress. In contrast, and consistent with the fact that women have been attributed as being emotionally reactive, women may elicit different negative emotions such as distress at seeing a needy other. Further investigations are warranted into affect biases between genders; that is, do females and

males have different personalities organised around different negative emotions whereby one or the other might be more likely to empathize with a particular negative emotion and respond accordingly?

In the male and female models, perspective taking was unrelated to the other variables in the model. Thus, it seems clear that humour's association with more flexibility in changing one's perspective regarding a stressful experience, which enables one to view it from different vantage points (Kuiper, et al. 1995), to be quite distinct from the tendency to adopt the psychological point of view of another. While there has been support for humour as being an appraisal-focused coping strategy, this finding seems to suggest that emotion also plays an important role in humour's association with reducing distress. That is, humour may be seen as having an emotion-coping effect, whereby laughter and mirth may have a cathartic effect for the individual, serving to discharge pent up emotions and attenuate feelings of fear, anxiety and mitigate the negative physiological effects of chronic emotional arousal (Martin, 1989). What is surprising, however, is that positive affect was not found to be associated with perspective taking. Prior literature has consistently demonstrated positive correlations between positive affect and perspective taking (Eisenberg et al., 1994; Eisenberg & Okun, 1996). One would expect that the cognitive process of focusing on another's thoughts and feelings should be an outcome of a disposition to experience positive affect, as it requires an other-focused activity (Eisenberg & Okun, 1996). Nevertheless, if perspective taking is viewed as a solely *cognitive* aspect and ability involving nonegocentrically orientating oneself to another's perspective rather than to one's own (Davis, 1994; Eisenberg et al., 1994), it seems conceivable that there not necessarily be a strong relationship between perspective taking and affectivity, even though perspective taking often may facilitate empathy and sympathy (Batson, 1991; Hoffman, 1982).

Finally, the fact that coping humour was not predictive of negative affect was consistent with Kuiper's et al.'s (1992) findings with the Positive and Negative Affect Schedule (PANAS). The fact that coping humour is related to positive affect but unrelated to negative affect supports the independent dimensionality positive and negative affect. If affect is conceived as a two dimensional construct, rather than viewed, as has been done in the past, as a single bipolar dimension (indicating that one can only experience either negative or positive emotions at any one time), then one can experience both "valences" simultaneously. Thus, the level of positive affect relative to negative affect level may determine whether one's negative emotions are viewed as facilitating or debilitating. The fact that coping humour is positively associated with positive affect but unrelated to negative affect seems consistent with the notion that an individual who is high on sympathy is prone to experience both positive and negative emotions. That is, one can experience how needy another feels but is unlikely to become overaroused as a consequence which results in self-focused personal distress. Therefore, more humorous persons, who are able to maintain their positive affect levels in response to a distressed target, would become moderately aroused, and be expected to be more likely to experience sympathy and to cope with the other's distress by employing problem-focused strategies (i.e., helping) that directly address the needs of the other person (Eisenberg & Fabes, 1992).

Self-Report Measures

While the present study employed only self-report measures, its purpose was to assess the relationship between individuals' dispositional characteristics on humour, affect and the empathy-related constructs. Much research has already focused on state measures

of these constructs while other studies, which have combined state and trait measures, have obtained inconsistent findings (See Davis, 1994).

While it is recognised that self-report measures have their weaknesses in terms of social desirability and other biases, it is argued that, even though there may be overestimations of self-reporting on the scales used in the present study, they are not related to a need for approval. In fact, Turner (1980) found that self-reporting of humour is in fact as good or better than raters' judgements. As such scores are *relative to one another*, the ranking of these scores may well reflect true differences between individuals (i.e., some subjects score higher or lower than others). Many of the scales in the present study displayed near-normal distribution scores (although, as might be expected, some curves were skewed slightly to the positive side of centre), and there was a good spread of scores with no apparent ceiling effects. Thus, it seems likely that not only those high in sympathy or more humorous offered to participate in the study.

Notwithstanding the above, there is, however, a need for the development of better measures, as inter-item correlations for some of the scales were low (e.g., for sympathy and coping humour) which could have accounted for some of the low correlations found in this and prior studies. For example, the ambiguities in some of the wordings around Davis' (1984) Interpersonal Reactivity Index seems to be likely to foster inconsistent responses as well as having questionable validity. For example, items on the personal distress scale either seem to tap emergency situations (e.g., "In emergency situations, I feel apprehensive and ill-at-ease") or emotional situations (e.g., "I sometimes feel helpless when I am in the middle of a very emotional situation") and leave out the context allowing individuals a wide variety of responses. For example, what is an emergency situation? How is this the same as experiencing another's negative emotions? Future scale development should attempt to put items into a context to avoid misinterpretation and

measures need to be developed whereby respondents are able perhaps recall when they were in a particular stressful situation in order to maximise the likelihood that subjects would report their typical responses rather than answering out of context or even presenting an ideal image of themselves.

A Caveat

While the present study employed path analysis to test causal relationships between sense of humour, affect and the empathy-related characteristics, it remains the case that the model relies on correlation, and presupposes inclusion of all causal variables. Causal conclusions must therefore be made with caution.

Future Research

Future studies could focus on the relationship between sense of humour and empathy for *positive* rather than negative emotions in others. For example, are humorous individuals more likely to empathise with happy people, or do people who empathise with individuals who are happy (and do not need assistance) do so to elevate their own positive affect levels?

While the need for further scale development has been mentioned, the need to investigate the various elements that go make up a sense of humour (e.g., the ability to generate humour as opposed to the ability to appreciate humour) seems warranted. For example, when investigating the relationship between humour and stress reduction, the ability to generate humour would seem to be important factor in coping with life stress rather than the ability to appreciate humour.

Finally, Vaillant (1977) cautions that there are two different levels of humour in terms of adaptive mechanisms. While self-deprecating humour (being able to focus on the positive side of a negative situation) is among the truly mature adaptive mechanisms, he

argues that, humour at the expense of others, that is, wit with hostile intent, is a neurotic mechanism. Future research could investigate exploring the processes behind humour as an avoidance technique to that of humour as an adaptive coping strategy.

Conclusion

By linking two sets of findings that have been pursued independently, the present study tested a conceptual model that postulated that positive and negative affect would act as mediating variables between coping humour and the empathy-related responses of sympathy, personal distress and perspective taking., there was clear support for an indirect effect of sense of humour on personal distress levels mediated by positive affect for both males and females. That is, individuals high in coping humour tended to have higher levels of positive affect which, in turn, is accompanied by reduced levels in personal distress. Thus, sense of humour may be one personality correlate of empathy-related responding which may facilitate regulation of one's negative vicarious emotional arousal which in turn may facilitate positive social competence and protection against ongoing chronic emotional overarousal which can impact on an individual's psychological and physical well-being. How and why gender moderates the other constructs (e.g., sympathy) of empathy needs to be further explored.

References

- Asher, H.B. (1976). *Causal modelling*. London: Sage.
- Babad, E.Y. (1974). A multimethod approach to the assessment of humor: A critical look at humor tests. *Journal of Personality*, 42, 618-631.
- Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Batson, C.D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Erlbaum.
- Batson, C.D., & Coke, J.S. (1981). Empathy: A source of altruistic motivation for helping? In J.P. Rushton & R.M. Sorrentino (Eds.), *Altruism and helping behavior: Social, personality and developmental perspectives* (pp 167-187). Hillsdale, NJ: Lawrence Erlbaum.
- Batson, C.D., Duncan, B.D., Ackerman, P., Buckley, T., & Birch, K. (1981). Is empathic emotion a source of altruistic motivation? *Journal of Personality and Social Psychology*, 40, 290-302.
- Batson, C.D., Dyck, J.L., Brandt, J.R., Batson, J.G., Powell, A.L., McMaster, M.R., & Griffitt, C. (1988). Five studies testing two new egoistic alternatives to the empathy-altruism hypothesis. *Journal of Personality and Social Psychology*, 55, 52-77.
- Batson, C.D., O'Quin, K., Fultz, J., Vanderplas, M., & Isen, A.M. (1983). Influence of self-reported distress and empathy on egoistic versus altruistic motivation to help. *Journal of Personality and Social Psychology*, 45, 706-718.
- Bridges, L.J., Grolnick, W.S. (1995). The development of emotional self-regulation in infancy and early childhood. In N. Eisenberg (Ed.), *Social development* (pp. 185-211). London, UK: Sage.
- Carlo, G., Eisenberg, N., Troyer, D., Switzer, G., & Speer, A.L. (1991). The altruistic personality: In what contexts is it apparent? *Journal of Personality and Social Psychology*, 61, 450-458.
- Costa, P.T., & McCrae, R.R. (1990). Influence of extraversion and neuroticism on subjective well-being: Happy and unhappy people. *Journal of Personality and Social Psychology*, 53, 751-766.
- Cunningham, M.R. (1988). What do you do when you're happy or blue? Mood, expectancies and behavioral interest. *Motivation and emotion*, 12, 309-331.

References

- Davis, M.H. (1983). Empathic concern and the muscular dystrophy telethon: Empathy as a multidimensional construct. *Personality and Social Psychology Bulletin*, 9(2), 223-229.
- Davis, M.H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44, 113-126.
- Davis, M.H. (1994). *Empathy: A social psychological approach*. Madison, WI: Brown & Benchmark.
- Davis, M.H., Luce, C., Kraus, S.J. (1994). The heritability of characteristics associated with dispositional empathy. *Journal of Personality*, 62, 369-391.
- Deaner, S.L., & McConatha, J.T. (1993). The relationship of humor to depression and personality. *Psychological Reports*, 72, 755-763.
- Derryberry, D., & Rothbart, M.K. (1988). Arousal, affect, and attention as components of temperament. *Journal of Personality and Social Psychology*, 55, 958-966.
- Dillon, K.M., Minchoff, B., & Baker, K.H. (1985). Positive emotional states and enhancement of the immune system. *International Journal of Psychiatry in Medicine*, 15, 13-18.
- Dixon, N.F. (1980). Humour: A cognitive alternative to stress? In I.G. Sarason & C.D. Spielberger (Eds.), *Stress and anxiety* (Vol. 7, pp 281-289). Washington, DC: Hemisphere.
- Eisenberg, N., & Fabes, R.A. (1991). *Emotion, self-regulation, and social competence*. Paper presented at the meeting of the American Psychological Society, San Francisco, CA.
- Eisenberg, N., & Fabes, R.A. (1992). Empathy: Conceptualization, assessment, and relation to prosocial behavior. *Motivation and Emotion*, 14, 131-149.
- Eisenberg, N., & Fabes, R.A. (1992) Emotion, regulation, and the development of social competence. In M.S. Clark (Ed.), *Review of Personality and Social Psychology: Emotion and social behaviour* (Vol. 14, pp. 119-150). Newbury Park, CA: Sage.
- Eisenberg, N., & Fabes, R.A. (1995). The relation of young children's vicarious emotional responding to social competence, regulation, and emotionality. *Cognition and Emotion*, 9, 203-228.

References

- Eisenberg, N., Fabes, R.A., Miller, P.A., Fultz, J., Mathy, R.M., Shell, R., & Reno, R.R. (1989). The relations of sympathy and personal distress to prosocial behaviour: A multimethod study. *Journal of Personality and Social Psychology*, 57, 55-66.
- Eisenberg, N., Fabes, R.A., Murphy, B., Karbon, M., Maszk, P., Smith, M., Suh, K., & O'Boyle, C. (1994). The relations of emotionality and regulation to dispositional and situational empathy-related responding. *Journal of Personality and Social Psychology*, 66, 776-797.
- Eisenberg, N., Fabes, R.A., Murphy, B., Karbon, M., Smith, M., & Maszk, P. (1996). The relations of children's dispositional empathy-related responding to their emotionality, regulation, and social functioning. *Developmental psychology*, 32, 195-209.
- Eisenberg, N., Fabes, R.A., Schaller, M., Miller, P.A., Carlo, G., Poulin, R., Shea, C., & Shell, R. (1991). Personality and socialization correlates of vicarious emotional responding. *Journal of Personality and Social Psychology*, 61, 459-471.
- Eisenberg, N., & Lennon, R. (1983). Gender differences in empathy and related capacities. *Psychological Bulletin*, 94, 100-131.
- Eisenberg, N., & Miller, P.A. (1987). The relation of empathy to prosocial and related behavior. *Psychological Bulletin*, 101, 91-119.
- Eisenberg, N., & Okun, M.A. (1996). The relations of dispositional regulation and emotionality to elders' empathy-related responding and affect while volunteering. *Journal of Personality*, 34, 213-234.
- Eisenberg, N., Shea, C.L., Carlo, G., & Knight, G. (1991). Empathy-related responding and cognition: A "chicken and the egg" dilemma. In W. Kurtines & J. Gerwitz (Eds.), *Handbook of moral behavior and development. Vol. 2. Research* (pp. 63-88). Hillsdale, NJ: Erlbaum.
- Fabes, R.A., Eisenberg, N., & Eisenbud, L. (1993). Behavioral and physiological correlates of children's reactions to others' distress. *Developmental Psychology*, 29, 655-663.
- Garber, J., & Dodge, K.A. (Eds.) (1991). *The development of emotion regulation and dysregulation*. Cambridge: University Press
- Gross, P.R. (1994). A pilot study of the contribution of empathy to burnout in Salvation Army Officers. *Work & Stress*, 8(1), 68-74.

References

- Hoffman, M.L. (1982). Development of prosocial motivation: Empathy and guilt. In N. Eisenberg (Ed.), *The development of prosocial behavior* (pp. 281-313). San Diego, CA: Academic Press.
- Hoffman, M.L. (1984). Interaction of affect and cognition in empathy. In C.E. Izard, J. Kagan, & R.B. Zajonc (Eds.), *Emotions, cognition, and behavior* (pp. 103-131). Cambridge, England: Cambridge University Press.
- Hogan, R. (1961). Development of an empathy scale. *Journal of Consulting and Clinical Psychology*, 33, 307-316.
- Holland, N.N. (1982). *Laughing: A psychology of humor*. Ithaca, NY: Cornell University Press.
- Hubbard, J., & Coie, J.D. (1994). Emotional determinants of social competence in children's peer relationships. *Merrill-Palmer Quarterly*, 40, 1-20.
- Isen, A.M., Clark, M., & Schwartz, M. (1976). Duration of the effect of good mood on helping: "Footprints on the sand of time." *Journal of Personality and Social Psychology*, 34, 385-393.
- Isen, A.M., & Levin, P.F. (1972). Effect of feeling good on helping: Cookies and kindness. *Journal of Personality and Social psychology*, 21, 384-388.
- Isen, A.M., Shalke, T.E., Clark, M., & Karp, L. (1978). Affect, accessibility of material in memory and behaviour: A cognitive loop? *Journal of Personality and Social Psychology*, 36, 1-12.
- Joreskog, K.G., & Sorbom, D. (1993). *LISREL VIII*. Chicago: National Educational Resources.
- Korotkov, D., & Hannah, T.E. (1994). Extraversion and emotionality as proposed superordinate stress moderators: A prospective analysis. *Personality and Individual Differences*, 16, 787-792.
- Kuiper, N.A., McKenzie, S.D., & Belanger, K.A. (1995). Cognitive appraisals and individual differences in sense of humor: Motivational and affective implications. *Personality and Individual Differences*, 19 (3), 359-372.
- Kuiper, N.A., & Martin, R.A. (1993). Humor and self-concept. *Humor: International Journal of Humor Research*, 6, 251-270.
- Kuiper, N.A., Martin, R.A., & Dance, K.A. (1992). Sense of humor and enhanced quality of life. *Personality and Individual Differences*, 13, 1273-1283.
- Kuiper, N.A., Martin, R.A., & Olinger, L.J. (1993). Coping humour, stress, and cognitive appraisals. *Canadian Journal of Behavioural Science*, 25, 81-96.

- Lazarus, R.S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer-Verlag.
- Lazarus, R.S. (1991). Cognition and motivation in emotion. *American Psychologist*, 46, 352-367.
- Lefcourt, H.M., & Martin, R.A., (1986). *Humor and life stress: Antidote to adversity*. New York: Springer-Verlag.
- Levine, J. (1977). Humour as a form of therapy: Introduction to symposium. In A. J. Chapman & H.C. Foot (Eds.), *It's a funny thing humour* (pp.335-349). Oxford: Pergamon
- Martin, R.A., & Dobbin, J.P. (1988). Sense of Humour, hassles, and immunoglobulin A: Evidence for a stress moderating effect of humour. *International Journal of Psychiatry in Medicine*, 18, 93-105.
- Martin, R.A., & Lefcourt, H.M. (1983). Sense of humour as a moderator of the relation between stressors and moods. *Journal of Personality and Social Psychology*, 45, 1313-1324.
- Maslach, C. (1982). *Burnout: The cost of caring*. Englewood Cliffs, NJ: Prentice- Hall.
- Mehrabian, A., & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality*, 40, 525-543.
- McGhee, P.E. (1979). *Humor: Its origin and development*. San Francisco: W.H. Freeman.
- Moody, R. (1978). *Laugh after laugh: The healing power of humor*. Jacksonville, FL: Headwaters Press.
- Murdock, M.C., & Ganim, R.M. (1993) Creativity and humor: Integration and incongruity. *Journal of Creative Behavior*, 27, 57-70
- Nezu, A. M., Nezu, C.M., Blissett, S. (1988). Sense of humor as a moderator of the relation between stressful events and psychological distress: *A prospective analysis*. *Journal of Personality and Social Psychology*, 54, 520 -525.
- Omdahl, B.L. (1995). *Cognitive appraisal, emotion and empathy*. Mahwah, NJ: Lawrence Erlbaum.
- Overholser, J. C. (1992). Sense of humor when coping with life stress. *Personality and Individual Differences*, 13, 799-804.
- Parke, R.D. (1994). Progress, paradigms, and unresolved problems: Recent advances in our understanding of children's emotions. *Merrill-Palmer Quarterly*, 40, 157-169.

References

- Pedhazur, E.J. (1982). *Multiple regression in behavioral Research* (2nd ed.). New York: Harcourt Brace.
- Pines, A.M. (1982). Helpers' motivation and the burnout syndrome. In T.A. Wills (Ed.), *Basic processes in helping relationships* (pp 453-475). New York: Academic Press.
- Porterfield, A.L. (1987). Does sense of humor moderate the impact of life stress on psychological and physical well-being? *Journal of Research in Personality*, 21, 306-317.
- Rosenhan, D.L., Salovey, P., & Hargis, K. (1981). The joys of helping: Focus of attention mediates the impact of positive affect on altruism. *Journal of Personality and Social Psychology*, 40, 899-905.
- Staub, E. (1984). Steps toward a comprehensive theory of moral conduct: Goal orientation, social behavior, kindness and cruelty. In J. Gerwitz & W. Kurtines (Eds.), *Morality, moral development, and moral behavior: Basic issues in theory and research* (pp. 241-260). New York: Wiley.
- Strayer, J. (1987). Affective and cognitive perspectives on empathy. In N.Eisenberg & J. Strayer Eds.), *Empathy and its development* (p389-398). New York: Cambridge University Press.
- Stotland, E. (1969). Exploratory studies in empathy. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 4, pp. 271-314). New York: Academic Press.
- Tabachnick, B.G., & Fidell, L.S. (1989). *Using multivariate statistics* (2nd ed.). New York: Harper Collins.
- Thompson, R.A. (1994). Emotion regulation: A theme in search of definition. In N.A. Fox (Ed.), *the development of emotion regulation. Monographs of the Society for Research in Child development*, 59 (Serial No. 240), 25-52.
- Thorson, J.A. (1990). *Is propensity to laugh equivalent to sense of humor.* *Psychological Reports*, 66, 737-738.
- Thorson, J.A. , & Powell, F.C. (1993). Sense of personality and dimensions of personality. *Journal of Clinical Psychology*, 49, 799-809.
- Thorson, J.A. , & Powell, F.C. (1994, June). Psychometric properties of the Multidimensional Sense of Humor Scale. In W. Ruch (Chair), *Approaches to the sense of humor: Concepts and measurement*. Symposium conducted at the meeting if the International Society for Humor Studies Conference, Ithaca, New York, USA.

References

- Thorson, J.A., & Powell, F.C. (1996). Women, aging and sense of humor. *Humor: International Journal of Humor Research*, 9, 169-186.
- Thorson, J.A., & Powell, F.C., Sarmany-Schuller, I., & Hampes, W.P. (in press). Psychological health and sense of humor. *Journal of Clinical Psychology*.
- Toi, M., & Batson, C.D. (1982). More evidence that empathy is a source of altruistic motivation. *Journal of Personality and Social Psychology*, 43, 281-292.
- Trice, A.D., & Price, J. (1986). Joking under the drill: A validity study of the Coping Humor Scale. *Journal of Social Behavior and Personality*, 1, 265-266.
- Turner, R.B. (1980). Self-monitoring and humor production. *Journal of Personality*, 48, 161-172.
- Watson, D., & Clark, L.A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin*, 96, 465-490.
- Watson, D., Clark, L.A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.
- Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, 98, 219-235.
- Wegner, D.M., & Giuliano, T. (1980). Arousal-induced attention to the self. *Journal of Personality and Social Psychology*, 38, 719-726.
- Wiske, L. (1991). *The psychology of sympathy*. New York: Plenum.
- Wood, J.V., Saltzberg, J.A., & Goldsamt, L.A. (1990). Does affect induce self-focused attention? *Journal of Personality and Social Psychology*, 58, 899- 908.
- Wood, J.V., Saltzberg, J.A., Neale, J.N., Stone, A.A., & Rachmiel, T.B. (1990). Self-focused attention, coping responses, and distressed mood in everyday life. *Journal of Personality and Social Psychology*, 58, 1027-1036.

Dear Participant,

This study is being conducted as part of my Psychology Honours Degree at Edith Cowan University. Its purpose is to look at humour and emotional responses and I would be grateful for your assistance. The information obtained from this research is expected to be useful in assisting people to deal with stress.

It should take you no more than 10 minutes to take part.

Your participation is entirely voluntary and, should you agree to take part, you are free to withdraw at any time or to decline to complete any part of the material.

There is no need for you to record your name or any other facts that could identify you, so that all information collected will remain anonymous.

As a participant in this study, I would appreciate if you would complete the three attached questionnaires in the order presented, and post back to me in the self-addressed stamped envelop provided. Please attempt all questions.

Should you wish to have a summary of the results of this study, or should you have any queries regarding this research, please feel free to contact me or my supervisor on the numbers below.

Thankyou very much for your help; it will assist my research a great deal.

Yours sincerely,

Michael Sheehan

Tel: [REDACTED]

Dr Adele Hills

(Supervisor)

Edith Cowan University

Tel: 400 5536

APPENDIX B: COPING HUMOUR SCALE

This questionnaire is about how you experience humour. Obviously, there is a wide variation among individuals so there are no right or wrong answers.

READ EACH ITEM CAREFULLY BEFORE RESPONDING AND ATTEMPT ALL QUESTIONS. Answer as honestly as you can.

Below you will find a list of seven statements. Please indicate the degree to which you agree or disagree with that statement by marking a tick ☐ in only one of the boxes provided.

1. I often lose my sense of humour when I'm having problems.

☐
STRONGLY
DISAGREE

☐
MILDLY
DISAGREE

☐
MILDLY
AGREE

☐
STRONGLY
AGREE

2. I have often found that my problems have been greatly reduced when I tried to find something funny in them.

☐
STRONGLY
DISAGREE

☐
MILDLY
DISAGREE

☐
MILDLY
AGREE

☐
STRONGLY
AGREE

3. I usually look for something comical to say when I am in tense situations.

☐
STRONGLY
DISAGREE

☐
MILDLY
DISAGREE

☐
MILDLY
AGREE

☐
STRONGLY
AGREE

4. I must admit my life would probably be easier if I had more of a sense of humour.

☐
STRONGLY
DISAGREE

☐
MILDLY
DISAGREE

☐
MILDLY
AGREE

☐
STRONGLY
AGREE

Please turn over ⇒

APPENDIX B

5. I have often felt that if I am in a situation where I either have to cry or laugh, it's better to laugh.

☐
STRONGLY
DISAGREE

☐
MILDLY
DISAGREE

☐
MILDLY
AGREE

☐
STRONGLY
AGREE

6. I can usually find something to laugh or joke about even in trying situations.

☐
STRONGLY
DISAGREE

☐
MILDLY
DISAGREE

☐
MILDLY
AGREE

☐
STRONGLY
AGREE

7. It has been my experience that humour is often a very effective way of coping with problems.

☐
STRONGLY
DISAGREE

☐
MILDLY
DISAGREE

☐
MILDLY
AGREE

☐
STRONGLY
AGREE

APPENDIX C: INTERPERSONAL REACTIVITY INDEX (DAVIS, 1984)

The following statements ask about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in one letter on the line next to each statement number. READ EACH ITEM CAREFULLY BEFORE RESPONDING AND ATTEMPT ALL QUESTIONS. Answer as honestly as you can. Thank you.

ANSWER SCALE:

A	B	C	D	E
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL

- _____ 1. I often have tender, concerned feelings for people less fortunate than me.
- _____ 2. I sometimes find it difficult to see things from the "other person's" point of view.
- _____ 3. Sometimes I don't feel very sorry for other people when they are having problems.
- _____ 4. In emergency situations, I feel apprehensive and ill-at-ease.
- _____ 5. I try to look at everybody's side of a disagreement before I make a decision.
- _____ 6. When I see someone being taken advantage of, I feel kind of protective towards them.
- _____ 7. I sometimes feel helpless when I am in the middle of a very emotional situation.

APPENDIX C

A DOES NOT DESCRIBE ME WELL	B	C	D	E DESCRIBES ME VERY WELL
--------------------------------------	---	---	---	-----------------------------------

- _____ 8. I sometimes try to understand my friends better by imagining how things look from their perspective.
- _____ 9. When I see someone get hurt, I tend to remain calm.
- _____ 10. Other people's misfortunes do not usually disturb me a great deal.
- _____ 11. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.
- _____ 12. Being in a tense emotional situation scares me.
- _____ 13. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.
- _____ 14. I am usually pretty effective in dealing with emergencies.
- _____ 15. I am often quite touched by the things I see happen.
- _____ 16. I believe that there are two sides to every question and try to look at them both.
- _____ 17. I would describe myself as a pretty soft-hearted person.
- _____ 18. I tend to lose control during emergencies.
- _____ 19. When I'm upset at someone, I usually try to "put myself in their shoes" for a while.
- _____ 20. When I see someone who badly needs help in an emergency, I go to pieces.
- _____ 21. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

**APPENDIX D: POSITIVE AND NEGATIVE AFFECT SCHEDULE (WATSON,
CLARK, & TELLEGEN, 1988)**

This scale consists of a number of words that describe different feelings and emotions. Please read each item carefully and indicate on the line next to each word to what extent you **generally** feel this way, that is, how you feel **on the average**. PLEASE RESPOND TO EACH ITEM. Answer as honestly as you can. Use the following scale to record your answers.

1	2	3	4	5
VERY SLIGHTLY OR NOT AT ALL	A LITTLE	MODERATELY	QUITE A BIT	EXTREMELY

_____	interested	_____	irritable
_____	distressed	_____	alert
_____	excited	_____	ashamed
_____	upset	_____	inspired
_____	strong	_____	nervous
_____	guilty	_____	determined
_____	scared	_____	attentive
_____	hostile	_____	jittery
_____	enthusiastic	_____	active
_____	proud	_____	afraid